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ABSTRACT

This interim report analyzes the dissemination and impact of "SET: Research Information for Teachers," a package of articles presenting educational research findings in a journalistic style for distribution to Australian and New Zealand schools and teachers. The report consists of four sections. The first section reviews recent literature on knowledge creation, diffusion, and utilization, including research materials selection, user needs, and factors affecting utilization. In the second section the authors present aggregate data on SET's adoption in Australia, especially in the state of Victoria. The third section summarizes the authors' conclusions from case studies of SET diffusion and adoption in 13 Victoria schools. The last section reports on teacher reactions to SET; 122 teachers in six group sessions examined SET materials and answered a questionnaire on SET's format, presentation, and contents. The authors conclude that SET has so far been successful but that most schools lack mechanisms for disseminating such materials to their teachers. Three appendices describe the 13 case study locations and present one case study and a copy of the teacher questionnaire. (Author/RW)

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EA 014 662

THE IMPACT OF SET:

RESEARCH INFORMATION FOR TEACHERS

by

JOHN M OWEN and KEVIN C HALL

January 1981
Tertiary Education Research Unit
Melbourne State College

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John Owen
Kevin Hall

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PROLOGUE

Studies of the diffusion and utilization of educational knowledge have become increasingly important during the last decade. Many originated in the wake of large scale curriculum projects which attempted to influence school practice in the 1950s and 1960s. One result has been an improved understanding of the characteristics of innovations and educational systems which are associated with effective change (see, for example, Fullan and Pomfret, 1977). Consequently, there have been efforts, particularly in the United States of America (USA), to set up mechanisms designed to improve the flow of new knowledge to schools (Raizen, 1979) and to assist in the spread and use of innovations based on new knowledge (Emrick and Agarwala-Rogers, 1978).

We have witnessed a similar but not identical sequence of events in Australia. National curriculum projects have been completed in science and social science, and the effects of one of these have been analysed in terms of its adoption and implementation by schools in different educational systems (Owen, 1979). Partly as a result of the findings of studies of large curriculum projects in the USA and elsewhere, the Schools Commission has opted for school or local level support for innovation (Foyster, 1979). Now, in an effort to develop an awareness of the results of educational research findings amongst school personnel, the Australian Council for Educational Research (ACER) in conjunction with the New Zealand Council for Educational Research (NZCER) has developed a novel package titled 'SET: Research Information for Teachers'. This innovation consists of articles written in journalistic style which are potentially more attractive to teachers than original research reports. ACER uses the mail to inform teachers about the package and to post the SET materials to subscribers.

Despite the many reservations which can be found in the literature regarding this form of dissemination (Fullan, 1979), the ACER/NZCER initiative represents a unique attempt in Australasia to make the

results of educational research more accessible to schools. Even when a global view of knowledge dissemination is considered, materials similar to SET are rare; they have been produced in Sweden (Council of Europe, 1971) and in the USA (Raizen, 1979).[1] However, their impact has not been evaluated in any systematic fashion. Hence the availability of SET enables a study of the impact of a new form of knowledge dissemination strategy to be assessed.

This interim report outlines progress made in the study of the impact of SET. It consists of four sections. The first is a review of recent literature in the area of knowledge diffusion and use. The second details the extent of adoption of SET throughout the country. The third consists of a series of case studies of adoption and diffusion within the schools, and the fourth reports the reactions of teachers to the SET materials. In addition to reporting what has already been achieved in the evaluation, there is some discussion of what will be done in the second phase of the study, to be undertaken in 1981.

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[1] These packages were published in Sweden under the title: PM fran Skoloverstyrelesen (Memorandum from the National Board of Education). In the USA, they included the US Office of Education's PREP series (Putting Research into Educational Practice), specialised brochures on the cognitive and social development of teaching, and articles written without use of technical jargon on other educational issues.

SECTION ONE: A REVIEW OF RECENT LITERATURE ON THE IMPACT OF NEW KNOWLEDGE

Introduction

This review was assembled as the basis for developing a large scale study of the impact of the SET materials. However, we believe that it may provide insights into the broader issue of creation, diffusion and utilization of new knowledge in educational settings. The frame of reference for the discussion is educational knowledge and its effect on schools and school systems. We found, however, many useful and interesting ideas and concepts which arose in contexts outside education, which have potential to aid our understanding of educational knowledge usage. The extent of the literature was far greater than expected, and most had been published relatively recently. It is apparent that knowledge usage is currently attracting the attention of many eminent scholars in the social sciences.

At the outset, existing paradigms describing knowledge flow and usage were reviewed.[1] It became apparent that the Research, Development and Diffusion (RD&D) paradigm was most suitable as a basis for considering the literature on the impact of research knowledge similar to SET (Clark and Guba, 1965). However, we were aware that, whereas this paradigm relegates user groups to a relatively minor role, the present study needed to take into account their influence.

The review is organised around key elements of knowledge flow and usage; research, products, diffusion and user as shown in Figure 1.1. Some possible areas of study are shown in this Figure in relation to each of these elements.

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[1] For a review of models or paradigms of educational change, see Fullan (1972) or Havelock (1973a).

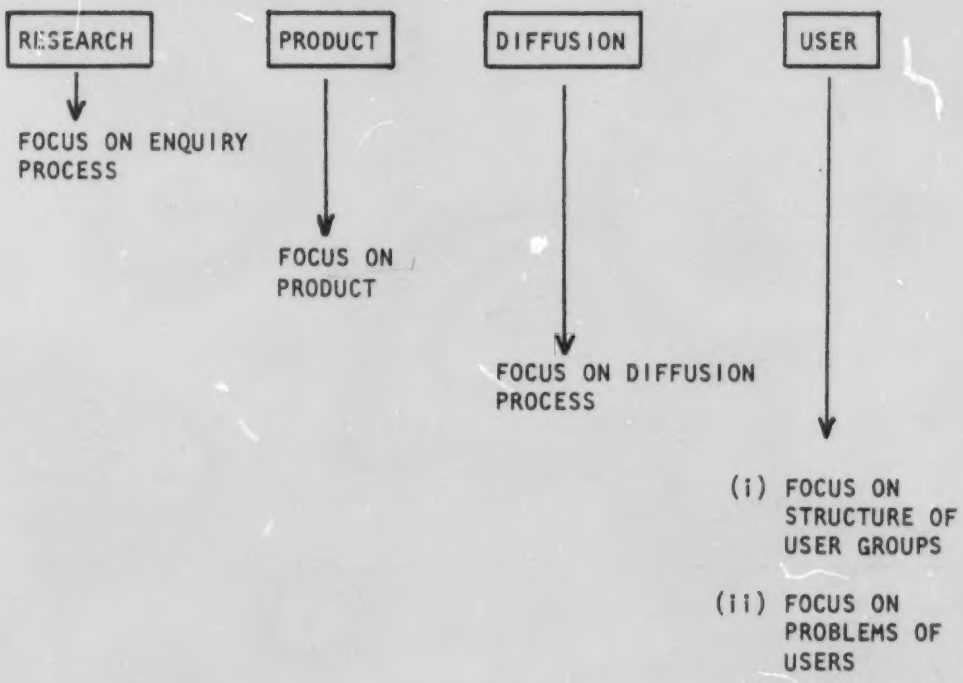

Figure 1.1 Elements of Knowledge Flow and Utilization and their Focus

In the RD&D model, information flows from one community, the research and development group, to another, the practitioners. The nature of these processes suggests at least five areas of study for those interested in attempts to change existing systems in this way (Dunn, 1980).

The first is to focus on the enquiry processes used in educational research, to consider the ways research is carried out, and to determine whether there are links between the various methods of research and their effects on users. If educational research were to be the focus, the investigator would probably examine the influence of factors such as: research design, analytical techniques, sampling procedures, and forms of data collection.

A second area is to examine the impact of the products of educational research, to determine the differential effects of the form, content, language and length of research reports on their usage.

A third area of study is to focus on diffusion from the creators to users, and to determine what linkage factors influence the extent of use of the new knowledge.

The other two areas concentrate attention on the receivers of new knowledge. The fourth area is to focus on the structure of user groups. This assumes that variations in the ways user groups are organised can cause variations in use of new knowledge by the group. The fifth area focusses on the problems faced by users. This assumes that the types of problems faced by organisations can lead to the need for various forms of knowledge to varying degrees.

Thus there are two areas of study related to knowledge creation, enquiry process and product, one related to knowledge diffusion, and two specifically related to knowledge utilization, structure and problems. We develop the rest of this review around these three facets of knowledge use. Thus, at the outset, we recognise that knowledge use cannot be understood merely by the examining the nature

of the information available. From other work carried out by one of the authors on the impact of information in the form of new school curricula, it is evident that full understanding of change and decision making about new knowledge must take into account aspects related to the creation, diffusion and use of the new information (Owen, 1979).

A set of complex political, historical, socioeconomic and organisational factors work together to determine the ultimate effects on users. Larsen writes that:

> "The study of patterns of knowledge utilization ignoring such factors (as those listed above) and based on simple paradigms is likely to be counterproductive and may contribute to the abuse of knowledge. Conclusions based on incomplete research positions will also be incomplete, if not inaccurate." (Larsen, 1980: 424)

In summary, new knowledge interacts with the system which produces, distributes and uses it and this must be borne in mind in studies of its impact.

Knowledge Creation

Representation and Selection of Research Material

It is not our intention to undertake an analysis of fundamental philosophical concerns underlying the creation of new knowledge qua new knowledge. However, one aspect which we found appealing was the suggestion that a general framework would be useful for the analysis of the ways in which knowledge is created and absorbed in a particular discipline. Nelson (1979) put forward several dimensions for structuring such an analysis. These are:

(1) the sociopolitical environment; the sociological, political, economic and ideological aspects which influence both the process and the products of knowledge creation

(2) resources; including research findings, personnel, facilities and availability of prior information

(3) systems and subsystems; the organisations and groups within which research is carried out, for example the relationship between funding agencies and the research workers

(4) processes of knowledge creation

(5) products of knowledge creation, and

(6) the producers of knowledge; members of the research community, their professional positions, and background factors such as their socio-economic status, schooling, and their previous occupations.

In addition to providing a sociological framework for the study of knowledge creation in a given discipline, these dimensions may be useful in a comparative analysis of knowledge creation in different disciplines. This could be extended to the study of the relative importance that society places on the creation of knowledge in different spheres of endeavour.

The analysis of links between research and decision making has led to the identification of two forms of research which cuts across disciplines. According to Cooley and McGrail (1977), decision oriented research is characterised by the need for specific information for the solution of a given problem and is undertaken within constraints imposed by factors such as time, resource limitations, and political pressure. They contrast this with conclusion oriented research characterised by the freedom of researchers to initiate and conduct. They are of the opinion that, in education, conclusion oriented research produces important results and these should be incorporated into decision making through improved communication between researchers and school personnel.

There are some who would challenge this view. In fact, even the effect of decision oriented research in education has recently been questioned. For example, Caplan and Nelson (1973) query the assumption that decision making based on research findings is an improvement on that based on values or on principles. Raizen (1979) amplifies

this in her analysis of the effects of the American National Institute of Education (NIE) on knowledge dissemination to school systems.

It was the assumption of the NIE that decisions in education would be better made in the presence of relevant research based information than in its absence. However, educators have criticised this assumption on at least four grounds. These are that:

(1) little important information derived from research exists which can be applied directly to improve schools,

(2) social, economic and political forces are more powerful in influencing change than are the results of research. Thus, even if relevant information is available, it may not be used,

(3) in recent times schools have been subjected to a plethora of new knowledge in the form of innovations and now need time to consolidate, and

(4) change based on new knowledge does not always lead to improvement.

Raizen (1979) claims that all four points should be investigated and argues that the NIE did not study the effects of change in schools to provide more information on these aspects and others.

Raizen also questions the NIE decision to disseminate information without quality control. This policy was based on the assumption that those at the local level, school district and school, have the most critical influence on decisions leading to use of new knowledge (Berman and McLaughlin, 1976). However, there is evidence for the conclusion that support is needed for these roles. Knott and Wildavsky (1980) have contributed to this evidence by reviewing difficulties faced by agencies responsible for knowledge creation and eventual dissemination. They suggest that receivers of unlimited information distributed by agencies such as the NIE were confused by the overload which resulted from a policy which discouraged some form of filtering.

Matching Available Knowledge to User Needs

Several alternatives to the approach used by the NIE have been suggested as a means of catering more appropriately for the needs of users. One is to create a data bank of available knowledge, such as the ERIC system, and to place the onus on users or their agents to initiate searches for the required information.

A second approach, involving knowledge creators in a less passive role, is to distribute information which enables users to assess the quality of research studies. This was a tactic used by the NIE, in funding an independent agency which screened research study results. The agency produced catalogues which contained rated profiles of studies relevant to high interest areas.

A third approach is the selection of relevant studies by the knowledge creators and the translation of these studies into a form more attractive to users. Essentially, the knowledge creators play an 'active' role in the selection process in this approach.

There are problems associated with this form of gatekeeper role. Essentially, it is necessary to sift and evaluate evidence relating to a given topic, and to transform it into a form appropriate for the intended audiences.

These problems were faced by the NIE when they set out to distribute resource materials to schools and, according to Raizen (1979), were never satisfactorily resolved. Those at the NIE were unable to find models of knowledge synthesis to guide their deliberations, and no framework was available to assist them in transforming information to make it more accessible to teachers. Raizen urges further study in these areas and comments that,

> "Until researchers find ways of aggregating research evidence and making their findings meaningful to lay audiences who make decisions in education and who run the system, they will continue to be frustrated with the lack of impact and the audiences will continue to hold educational research in low esteem." (Raizen, 1979: 285)

Perhaps a solution to the problem of sifting and evaluating evidence on a topic lies in the meta-evaluation techniques employed by Glass et al (1977) and others. To establish appropriate forms for summarising the new knowledge may require empirical investigation. To link existing knowledge and the creation of new knowledge to users in the most effective ways requires structures which take into account the existing methods of knowledge production and the realities of schools and school systems. Whilst some bases for making decisions on linkage and use can be found in research on communication, little is known about communication within schools, and hence we might be best served in taking Sieber's (1973) advice to go out and look.

The Distribution of Products of New Knowledge

Finally, in the area of knowledge creation, we review an article which assumes that the products of new knowledge are available, and that there need to be initiatives made by the knowledge developers to encourage the potential users to adopt. Rosenau et al (1971) adopt a marketing approach, and urge developers to consider factors such as the nature and size of the audience, the cost of the product to the users, identification of the existing need for the product, estimation of the amount of effort required to motivate the user to obtain and use the product, judgement of the anticipated competition, and setting the desired share of the market. They believe that, generally, educational researchers have failed to devise strategies to help improve the use of new information by schools. Part of the problem lies in the creation of appropriate marketing techniques. Any new knowledge designed for a mass audience will be successful, according to Rosenau et al, if the developers consider the following aspects:

(1) market analysis and projection, as indicated above,
(2) selection of the most appropriate final form of the product,
(3) development of the final form of the product,
(4) dissemination; the process of creating an awareness of the existence of the product, and an understanding of its functions and application,
(5) distribution; the mechanics of handling and transferring the product,

(6) installation and servicing; the assistance necessary for users during the adoption of the product, and its implementation, including the training of consultants and other linking agents, and

(7) control and monitoring; procedures designed to allow users and sponsors to evaluate the effectiveness of the product.

Knowledge Diffusion

In the previous sub-section there was some discussion of the most appropriate methods of linking the results of research findings to practitioners. We take this up in more detail here. Factors which affect the success of these linking strategies, based in the general educational milieu are also reviewed.

Studies of the impact of curriculum change provide us with data on these factors; RD&D approaches have shown the need for procedures which make clear the essential characteristics of the innovations to teachers and the need for assistance to schools and teachers in implementing the innovation.

Another important outcome of studying curriculum change has been that researchers now distinguish clearly between key processes: adoption, the decision to use; implementation, the state of use at a given time; and the implementation process, the act of putting a curriculum into use (Fullan, 1979). These are important distinctions for developing further perspectives of the diffusion and use of new knowledge.

Now we wish to turn to problems of the more general flow of new knowledge in educational settings, and particularly to examine the diffusion of new knowledge which ends at the adoption decision.

Figure 1.2 (a) depicts a situation of minimum intervention between the outcomes of new knowledge and its adoption by users. It may simply involve the publication of research articles in journals, and it

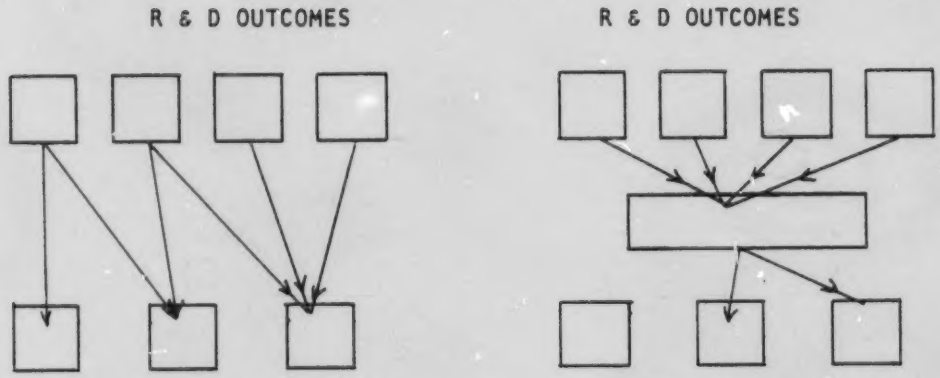

Figure 1.2 Alternate Modes of Linkage

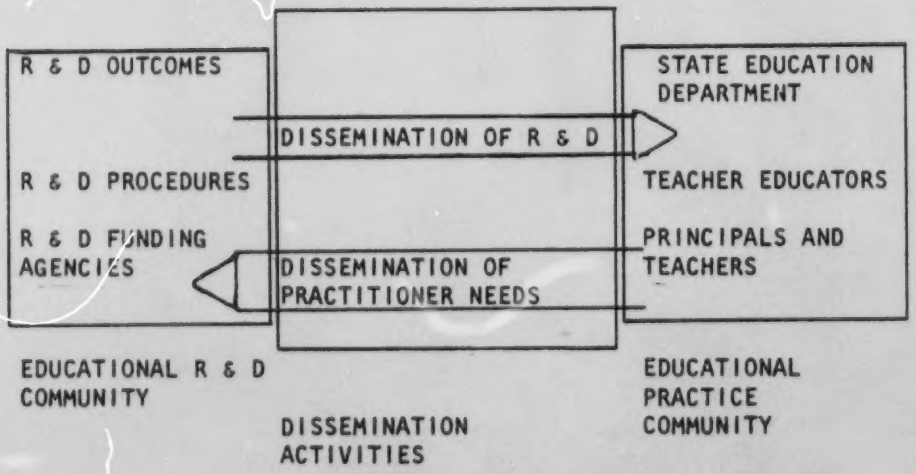

Figure 1.3 Linkage Paradigm for Educational Research and Development

assumes that practitioners have access and motivation to consult primary sources of information.

Figure 1.2 (b) depicts an intervention between the two phases of knowledge creation and knowledge adoption. It may involve the storage of information into a consolidated area (such as ERIC) or involve personnel who acquire relevant information for subsequent transmission to users.

These paradigms include provision for only a one way flow of information. However a more general paradigm, such as that depicted in Figure 1.3, appears to be more appropriate for describing the relationship between researchers and practitioners. According to the paradigm the two should be linked through two way interaction; the dissemination of information about practitioners' needs in one direction, and the dissemination of R and D outcomes in the other. The form of the linkage activities is not specified.

Although there are often links between senior administrators and researchers in determining the kinds of educational problems to be investigated, it is probably true to say that much of the educational research which does take place does not relate directly to the immediate needs of the classroom teachers. It would be interesting to speculate on the direction of educational research if it was controlled by an advisory group of teachers whose primary interests are the improvement of curriculum and its implementation in today's schools.

The Role of the Knowledge Creator in Diffusion

We have touched briefly on the problems faced by agencies responsible for assembling new knowledge for diffusion purposes. Knott and Wildavsky (1980) suggest that intervention or the filtering of available information should be the responsibility of the creators or their agents, that the means of diffusion should be

> "more than the mere (provision) of knowledge, it demands in addition that disseminators should 'simplify', 'clarify', 'pass through only relevant knowledge within the policy makers field of view.' In this rationale disseminators are to be the translators, interpreters, and gatekeepers for government decision makers." (Knott and Wildavsky, 1980: 539)

Clearly, this means some form of selective filtering by disseminators, and, depending on the degree of control exerted at this level, the disseminator could be seen to be influencing decision makers in social systems. When intervention occurs there seems to be a delicate balance between checks designed to control quality of information, and the freedom of practitioners in gaining ready access to relevant information.

In addition to affecting the ways knowledge is presented, other American efforts have been made to modify the diffusion and reception capabilities of educational systems. The NIE saw the need to influence existing structures as a key method of effecting an increase in disseminating knowledge designed to improve schools and schooling. Using Havelock's (1973a) linkage model as a guide, the NIE devoted substantial efforts to understand and improve linkage between the educational research community, system level agents, and schools. The use of these approaches recognised that a large degree of the control of education is vested in the hands of state and local authorities. Thus the NIE, a federal body, could not directly influence large scale changes to existing educational structures.[2] One of the tasks of the NIE was to provide an input into state dissemination structures where they existed, and to influence the form of these structures. The NIE also identified other nationally based agencies which influenced schools through dissemination programs, including commercial text book publishers who play an important role in curriculum decision making in the USA.

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[2]The federal financial contribution to education below tertiary level is about 8 percent of the total cost of education (National Centre for Education Statistics, 1977). However, the majority of funding for educational R & D is provided by the federal government.

The NIE reviewed existing forms of knowledge dissemination. Although ERIC had been in existence for about 15 years, there were many audiences for whom it had not been effective (Havelock, 1977). The efforts to upgrade knowledge dissemination included

> "the program 'Options in Education', produced by National Public Radio, a two volume catalogue describing R & D products... specialised brochures on the cognitive and social development of children, and articles and pamphlets on various educational issues written by journalists rather than researchers so as to avoid technical jargon... the brochures for teachers sufficiently summarised existing research information on various child development topics (with sources and references for further study if desired) and then translated these findings into helpful classroom practice for immediate application by teachers. Unfortunately, little money was available to conduct evaluations of the appeal or actual use of the information provided in these forms, as contrasted with the usual nosecount (which was made) of distribution of each publication, or listenership in the case of 'Options in Education'." (Raizen, 1979: 273)

Emrick and Agarwala-Rogers (1978) recently reported a study of the effects of the American National Diffusion Network (NDN). The NDN was an attempt to promote the adoption of innovations by school systems across North America. By contrast to the large scale curriculum project developments, innovations promoted by NDN tended to be operating programs developed at the local education authority level. NDN used facilitators to link developments with local schools who were the targets of the program. The researchers carried out an 18 month study using a variety of techniques to assess the impact of the NDN. They categorised their results under three headings: initial awareness, secondary awareness, and pre-implementation training. The first two of these are of particular concern to our discussion.

Factors which promoted initial awareness were:

(1) the use of materials with concise and attractive messages,

(2) the use of redundant tactics, including repeated mailings, and the use of print and visual media,

(3) segmentation of the audience according to the organizational structure of schools and school systems,

(4) use of specialised approaches to these different audiences, messages and methods being tailored to the interests and needs of each audience.

Factors which promoted secondary awareness were more intensive and personalised. Although interpersonal dynamics dominated the process of matching needs with available innovations, the use of materials couched in non-technical language which anticipated practitioner interests and needs were found to be important. Thus, in both stages, written resources were useful in facilitating innovation use.

The Future of Research on the Adoption/Diffusion Interface

One area of study which appears to have received little attention is the identification of decision makers regarding adoption, their motives for making decisions, and the factors located both within and outside their organisation which affected their decision.

This field of study appears to be of importance because of the links between adoption and ultimate use and usefulness of new knowledge. We believe that there are many grounds on which individuals and organisations base adoption decisions. It should be possible to identify these grounds, to classify them, and to link them to aspects such as dissemination within organisations and ultimate use of the new knowledge. Classification of adoption could, for example, use the following categories; the knowledgeable adopter, the knowledgeable rejector, the ignorant adopter, and the ignorant rejector. Much would be learnt by comparing and contrasting the grounds for decision making between each category, and the consequences of these decisions.

Such a study could also include an identification of the status and position of the adoption decision maker. If a school Principal adopts an innovation for reasons other than to use the new knowledge to solve a pressing problem, it is unlikely that the innovation will become accepted by those ultimately responsible for its implementation.

On the other hand, an innovation championed by a school staff member known to hold radical views may not be welcomed by those who adopt a more conservative stance about educational issues.

Knowledge Utilization

This review so far has dealt briefly with three aspects of diffusion. The first aspect is the creation/diffusion interface. The literature on this topic suggests that written information about new knowledge must be carefully organised and filtered in order for it to be potentially useful to adopting groups. The second aspect is the linking aspect. The literature here suggests that both written information about the new knowledge and person to person support is needed to influence adoption of the new knowledge. The third aspect is the diffusion/adoption interface. Here, we find very little recent work on knowledge adoption which does not concern curriculum adoption.

Within School Diffusion

We now examine recent writings on the use of new knowledge in organisations, with particular reference to schools. Organisational use of new knowledge can be thought of as having at least two components. The first is the within organisation diffusion from an adopter to other members of the organisation. The second is actual usage in terms of its effect on an individual member of the organisation. Both components appear to be of importance in the investigation for which this literature review has been assembled.

Some studies have attempted to link these two components to the adoption decision. The Rand study of innovation in 293 American school districts identified two major forms of adoption consequence. These were labelled; (1) opportunistic, and (2) problem solving. Opportunistic cases were characterised by the availability of funding for innovation and a lack of commitment and interest by those in the school. Problem solving cases arose from locally defined needs and their implementation proceeded on the basis of a strong commitment to fulfil these needs.

The Rand studies (see, for example, Berman and McLaughlin (1976)) suggest that senior school administrators charged with making decisions about the use of innovations based on new knowledge should only adopt them when a perceived need for them exists. There is the implication that internal consultation should take place, particularly if the implementation of programs based on new knowledge involves teacher role changes.

There are indications that lack of consultation between senior staff charged with decision making and classroom teachers is not solely due to the desire of senior staff to concentrate power into their own hands. Rather, it may be that senior school executives have to make too many decisions, or have time taken up with administrative matters which prevent them from adequately fulfilling a role of educational leader. For example,

> "At the reception stage, there are many factors which determine success other than the availability of information. Large organisational settings may inhibit policy makers who are responsible for making relevant decisions from obtaining the information; the welter of incoming material may cause it to become lost in the organisational system. Even if the material physically reaches appropriate decision makers, they may be too busy to read it, or if they do, may not understand what is said. Their frame of reference of professional backgrounds may further prevent policy-makers from giving serious consideration to what is said."
>
> (Knott and Wildavsky, 1980: 545)

In the educational context, Gideonse (1974) reminds us of these difficulties. He is pessimistic about the school's ability to overcome these organisational problems without outside assistance. According to Gideonse, administrators and teachers are kept very busy just 'keeping their heads above water,' and to give them the major responsibility for seeking out new knowledge and then creating within school methods of dissemination is asking too much.

Noting the difficulties associated with in-school communication and implementation, there has been an attempt by outsiders to assist schools to improve their problem solving capacities. Studies of these interventions have important implications for school organisation in

general and provide a framework for understanding factors which affect within school diffusion.

The NIE attempted, under its charter to aid dissemination, to encourage linkage activities, and to assist schools in analysing their needs and choosing appropriate solutions. According to Raizen (1979) the NIE mounted a major study of the internal diffusion of information. Unfortunately, it has been difficult to obtain the results of this work in Australia.[3]

Thus we have little evidence to act as a basis for study of within school diffusion of new knowledge. One theoretical paper by Willett (1975), however, appears to contribute to the development of guidelines for studying this aspect of knowledge usage. He has proposed a paradigm which relates the elements; time, action and audience.

Within each element three categories are defined. For the time dimension, these are:

- short, from adoption to three months after adoption
- intermediate, from three months to one year after adoption
- long term, from one year to five years after adoption

The categories of the action dimension are:

- acceptance, the audience accepts the report and takes observable action
- non-response, stalling or delaying tactics are used by the adopter
- rejection, there is outright refusal to diffuse the findings in the school

The categories of audience are:

- primary, the nominal adopter of the new information such as the school principal
- secondary, those involved in secondary reception, such as teachers
- tertiary, those who may ultimately benefit from use of the information, such as school pupils

Willett has also constructed a sociogram called the Research Impact Gram (RIG) which accommodates the three dimensions listed above,

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[3] A reason for this may be its limited circulation, for it is clear that NIE had limited funds for research and, consequently, the results of these studies were limited to 'in house' publications.

and thus provides a relatively simple tool for assessing the impact of new knowledge in organisations.

Others have tended to concentrate on one of these elements. For example, Rich (1977) studied the flow of information within federal bureaucracies. He identified two waves of utilization. The first occurred within three months after adoption and was characterised by a flow of information up the decision-making hierarchies. The second occurred from three to six months after adoption and in this phase the flow of information was lateral or downward in the hierarchy.

Utilization

Larsen (1980) has recently written an extensive review which examines the meanings of knowledge utilization, and this summary is based heavily on her ideas. She identifies four aspects: (1) What is knowledge utilization? (2) Is utilization always the same? (3) To what extent is utilization situation specific and to what extent is it generalisable, and (4) What factors can be associated with various types of utilization?

Larsen points out that, historically, knowledge was judged to be used when it was implemented as a program, or led directly to a course of action. However, alternative forms of utilization are now being recognised and this has led to a distinction between manifest consequences, those recognised and intended by members of a social system, and latent consequences, those neither intended or recognised.

Another distinction, made by Caplan et al (1975), is between instrumental and conceptual utilization. Instrumental utilization refers to instances where users can cite the specific ways in which knowledge is being used for decision making or problem solving. Conceptual utilization refers to influencing an individual's thinking about an issue without putting the information to any specific documentable use (Rich, 1977).

Others have adopted a wider stance on the meaning of utilization. In the context of policy decision making, Knott and Wildavsky (1980) suggest seven standards for measuring level of impact, and these are reproduced in Table 1.1.

Each of these standards is a level of commitment to new knowledge, and these hierarchichal levels seem to include elements of conceptual and instrumental utilization. The processes of cognition and reference are related to conceptual utilization, whilst the stages of effort, adoption and implementation are related to instrumental usage. The Knott and Wildavsky classification appears to have implications for measuring knowledge utilization in educational contexts. However, any extrapolation must bear in mind the different nature of implementation in schools compared with policy making in other bureaucracies. It is also more likely for groups to be concerned with implementation in schools than appears to be the case in other systems to which the standards of utilization put forward in Table 1.1 apply.

Educational Knowledge Utilization

Fullan (1979) has extrapolated the findings of others to the educational context, and has defined two major forms of knowledge use in educational settings.

The first is specific knowledge utilization: concrete knowledge used to solve a particular educational problem. Specific utilization may result from the application of a particular project or a set of directions which have been derived from educational research. Implementation of school curricula based on large scale curriculum projects with well defined characteristics would be classified as specific knowledge utilization. There has been a large amount of educational research devoted to the study of specific knowledge utilization.

The second form suggested by Fullan is enlightened knowledge utilization; diffuse or accumulated knowledge which serves to inform individuals. Fullan contends that users become aware over time of knowledge in an area of concern but they do not necessarily relate each element of

Table 1.1 Seven Standards of Utilization
(After Knott and Wildavsky, 1980:546)

1. Reception

   Utilization takes place when policy-makers or advisors receive policy-relevant information. When the communication comes to rest in the "in-basket," so that the data "reach" the policy-maker rather than remain on an analyst's desk or in the files of a distant consultant firm, utilization is complete.

2. Cognition

   The policy-maker must read, digest, and understand the studies. When he has done so, utilization has occurred.

3. Reference

   If frame of reference is the criterion, then utilization somehow must change the way the policy-maker sees the world. If information changes his preferences, or his understanding of the probabilities or magnitudes or impacts he fears or desires, utilization is a reality. Altering frames of reference is important because, in the long run, the policy-maker's new vision will show up in different policy priorities.

4. Effort

   To make a real difference, information must influence the actions of policy-makers. If they fight for adoption of a study's policy recommendations, we know a real effort was made even if political forces or other events block it.

5. Adoption

   What is essential is not whether policy-relevant information is an input to the policy process, some say, but whether it goes on to influence policy outcomes. Policy results, not inputs, is the proper standard.

6. Implementation

   Policy adoption is critical but, if adopted policy never becomes practice, information has no chance to affect action. Adoption without implementation is a hollow victory.

7. Impact

   A policy may be implemented but fail to have the desired effects. Hence it may be (and is) argued that only when policy stimulated by information yields tangible benefits to the citizens has utilization taken place.

the accrued knowledge to a particular act of usage, i.e. an observable form of use may not always result.

Machlup (1980) links these two forms of utilization to purpose. He distinguishes between use of knowledge for social value and use for private value. The social value in an educational context may be the implementation of a given curriculum because its objectives are judged to contribute to the development of the pupils as a group. Private value in an educational context may involve teachers reading appropriate journals or magazines in order to provide background for their work. The social value requires specific utilization whilst private value comes from enlightenment.

As indicated above, some effort has gone into conceptualising and measuring educational knowledge utilization, primarily in order to assess the impact of curriculum projects. In addition, we now know something of the factors which affect utilization of curricula in schools.

The instrumental nature of the means of implementation of many curriculum project materials promoted an evaluation of their effects through what has been labelled as a fidelity perspective (Fullan and Pomfret, 1977). Using this approach, implementation is measured by observation of what takes place in classrooms compared to what is intended or implied by the curriculum developers (Evans and Behrman, 1977). Hall and his co-workers have developed approaches which are designed to measure fidelity in more indirect ways than by classroom observation (Hall et al, 1975). Their unique contribution has been to conceptualise levels of use of innovation. Such a scheme acknowledges an extension of the fidelity perspective to include the possibility of adaptation of the original curriculum materials in ways not expected by the developers. This idea, also suggested by Ben-Peretz (1975), acknowledges the role of users in modifying curricula to meet specific needs of unique situations. The scheme proposed and used by Loucks et al (1975) has similarities to that suggested by Knott and Wildavsky (1980).

Hall and Loucks (1977) have linked levels of use with dimensions of use of innovations. Dimensions might include facets such as objectives, content, teaching strategies, forms of assessment, etc. Leithwood (1978) has produced profiles of implementation using a levels by dimensions matrix.

Enlightened knowledge utilization has not been given such an extensive analysis, perhaps partly because it is a newer idea and partly because it may be more difficult to conceptualise. However, uses of knowledge for enlightenment could help individuals to

> "understand the background and content of program operation, stimulate reverses of policy, focus attention on neglected issues, provide new understanding of the causes of social problems, clarify their own thinking, reorder priorities, make sense of what they have been doing, offer ideas for future directions, reduce uncertainties, create new uncertainties and provoke rethinking of taken for granted assumptions, justify actions, support positions, persuade others, and provide a sense of how the world works."
> (Weiss and Bucauvalas, 1980:305)

Clearly, the effects of knowledge for enlightenment can not be measured using a fidelity approach, and it is likely that new techniques will have to be developed to tap these outcomes.

A major contribution of Fullan's (1980) overview is the linking of the sources of knowledge to uses of the knowledge. Fullan explains two major sources, and thus produces four meanings of knowledge utilization, as outlined in Figure 1.4.

Type I represents the use of particular research to solve a given educational problem and can be regarded as the traditional view of what research should be doing. Type II occurs when an area of research is reviewed and this leads to action in a given area of practice. Type III represents cases when specific research leads to a range of actions or consequences on people's thinking and approaches. Type IV is similar to Type III except that the source is a body of research information which leads to a variety of actions or consequences.

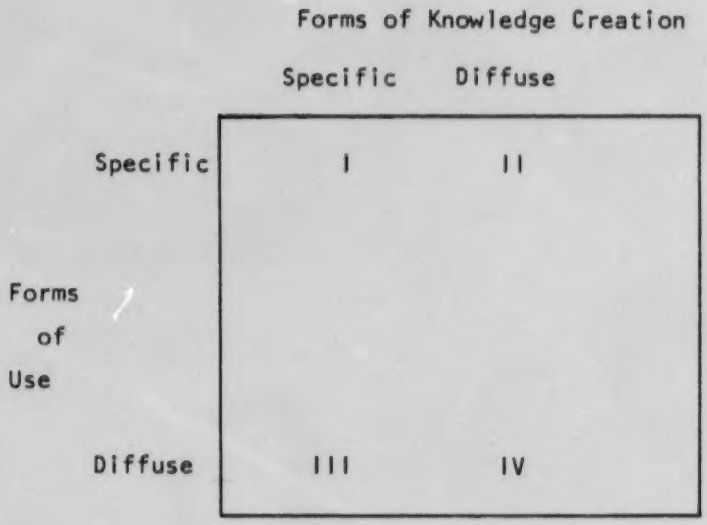

Figure 1.4 Meanings of Knowledge Utilization (after Fullan, 1979)

Factors Affecting Utilization

It is not surprising, given the stress on evaluation of specific knowledge utilization, that factors affecting utilization are also derived from specific knowledge use situations. These factors have been classified according to (1) the characteristics of the change effort by the protagonists of the new knowledge, (2) the characteristics of the institutional setting, or (3) the characteristics of the innovation which contains the new knowledge. Summaries of studies on implementation of innovations shows that variables in categories (1) and (2) above are far more important in explaining implementation variation than variables in category (3) (Miles, 1974: Berman and McLaughlin, 1976).

Characteristics of the change effort associated with implementation include: (1) the degree to which the users have access to training programs, (2) the extent of resource support, (3) the clarity with which the new ideas are presented, and (4) the degree of ongoing assistance and advice over time.

Characteristics of the institutional setting which are associated with effective implementation include: (1) the role of the Principal, (2) the extent to which the school has been involved in other innovations, and (3) the climate existing within the group responsible for implementing the change. Owen (1979) has identified five dimensions of this innovation climate. These are: organisation, co-operation, openness to new ideas, interaction with outside agencies, and knowledge of the innovation.

Thus, implementation tends to occur when there is overlapping support from outside agencies and the school administrator to the user group. That is, there is (1) access to information, (2) administrative support, (3) relevant and usable information available to the users at the adoption stage, (4) decision making based on needs, and (5) external support which exists from before the adoption decision through the implementation process.

Fullan (1980) has stated that the following conditions must apply:

> "(1) the information must be of a certain quality (e.g. relevance, applicability and understandability (2) the approach must be person intensive, interactive continuous and (3) the setting (district, organisation) must possess or come to possess characteristics of administrative support, peer interaction, and problem solving orientation. R & D (Research and Development) utilization usually fails to occur because one or more of the three sets of factors is missing. <u>All three</u> must occur for a change to happen...
> In sum, knowledge utilization fails to occur because it is infrequent for the quality of information, the approach and the setting to come together in mutually reinforcing ways."
>
> (Fullan, 1979:14)

Implications for the Evaluation of SET

At this point it is necessary to consider the relevance of the literature review for planning an evaluation of the SET package. The review has focussed on three aspects of the use of new knowledge; its creation, diffusion and utilization, and these aspects are appropriate for developing a framework for a comprehensive evaluation of SET.

SET is a collection of articles derived from original research, and when attending to the creation phase of the study, it seems most appropriate not to focus on the characteristics of the orginal research, but on the factors which affect the selection and translation of the original research into the final form of the SET package. That is, a study of creation of knowledge in this context would focus on the product as defined in Figure 1.1. If we take note of Raizen's criticisms of NIE's attempts at knowledge dissemination, it seems that much could be learnt from an analysis of the social and political factors which led to the creation of SET, the methods used to develop the SET package and to publicise it to teachers, schools and educational systems. Thus this part of the study would focus on the influences which prompted the NZCER and ACER to develop SET, and investigate the role these institutions are playing in the dissemination of educational research findings to practitioners.

The study of diffusion of SET should use as a criterion the extent of adoption of the packages, and thus an analysis of subscription patterns over time is necessary. Because SET is a national level project, national level adoption figures are necessary statistics. Studies of diffusion strategies should include an examination of the marketing arrangements of the ACER and NZCER. In addition, the effect of state and local level support for SET may reflect the attitudes of key personnel in supporting school improvement through educational research. The fact that education in Australia has traditionally been controlled at the state level suggests that variations in levels of adoption between states is likely and that state level influences on SET could be compared and contrasted. One factor which comes readily to mind in such an analysis is the availability of competitive materials to SET in each state and their relative impact.

However, it is our opinion that the primary focus of this study should be on the users of SET, and particularly on the educational institutions which adopt the SET package. There seem to be two sections to the

study in this phase. The first would concentrate on the consequences of adoption and the internal diffusion of the SET package within schools and other educational institutions. This part of the study would thus focus on the internal mechanisms of institutions which affect knowledge flow in the hope of identifying the means by which such a flow is facilitated. These could be linked to the attitudes to SET of key individuals concerned with the initiation and development of these mechanisms.

The second section of a study of users would examine the reactions of users to SET in an attempt to determine opinions of teachers and other educators to educational research findings. Such a study should also link these opinions to the ways in which teachers plan to use the results of educational research in their work. It is in this phase that the work commenced by Fullan and others on knowledge utilization could be used as the basis for the study, and extended. SET may have specific or instrumental uses for teachers and schools, but it is possible that its use could be described as for enlightenment or to aid teachers in conceptualization, as suggested by Rich (1977) and by Weiss and Bucuavalas (1980). There may also be a third area of use not encompassed by the dichotomy suggested by these writers. SET could be used to legitimate educational decisions, a suggestion made recently by Pelz (1978). This mode would include situations in which information is selectively used to support decisions already made or to reinforce an opinion the decision maker already holds.

It is possible that, in educational institutions, this third mode could be used in lieu of or in conjunction with instrumental and conceptual modes, and that the relative importance of these modes of use will vary according to the position of practitioners in the school hierarchy.

To tap teachers' opinions of SET articles, a promising framework has been developed and used by Weiss and Bucuavalas (1980). These researchers identified five factors which described the opinions of

decision makers about research reports in health and welfare.

The five factors were: (1) perceived relevance, (2) perceived research quality, (3) conformity to users prior expectations, (4) directions for action, and (5) challenge to the status quo. Weiss and Bucuavalas (1980) maintain that factors (2) and (3) together form a 'truth test' and that factors (4) and (5) together form a 'utility test'. Thus, decision makers, in addition to considering relevance, apply two 'tests' in determining to what extent they will use the results of research papers. This study provides a framework from which a similar study of decision makers in schools (principals and teachers) could be mounted.

Concluding Comment

This review has attempted to examine relevant information about the effects of new knowledge on decision making and practice in social settings. In order to cover several aspects of the topic, it has been necessarily superficial. However, the review is, in our opinion, a necessary and useful mechanism for planning the study of the SET package. It has served as a framework for an exploratory phase of the study, reported in the remainder of this report, and for a large scale study to be carried out in 1981.

SECTION TWO: NATIONAL PATTERNS OF ADOPTION

The availability of SET raised the question of whether such a package has an impact on the audience for which it was intended. This Section reports on one aspect of impact; adoption. The data analysed here enable tentative conclusions to be made about the potential influence SET could have in schools and other educational institutions across the country. These data also served as a base-line from which further work was initiated regarding the ACER approach to dissemination, and also for the selection of schools for further study regarding the use of SET by teachers.

Adoption of SET

The analyses outlined here are based on information supplied by the ACER in July 1980, shortly after the first of the two 1980 SET packages were mailed to schools. We report the extent of SET subscription for 1980; a subscription entitles the receiver to both editions. Because SET was intended for schools in all Australian states and territories, a national perspective on subscription patterns is presented.[4]

The information about subscription and adoption of SET is presented in Table 2.1. Subscription patterns are outlined in the top half of the Table, adoption patterns are outlined in the lower half. Adoption occurred if the recipient (an individual, a school or another agent) received at least one SET package, i.e. there was at least one subscription. Some adopters subscribed more than once but the most likely case was that each adopter received one SET package.

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[4] There are six states and two Commonwealth territories in Australia. For ease of discussion all will be referred to as states. The states are: New South Wales (NSW), Victoria (Vic), Queensland (Qld), South Australia (SA), Western Australia (WA) and Tasmania (Tas). The territories are: Australian Capital Territory (ACT) and Northern Territory (NT).

Table 2.1 Subscription and Adoption Patterns for the SET Package: 1980

Number of Subscription	ACT	NSW	VIC	QLD	SA	WA	TAS	NT	AUST
Sent to:									
Private Address	2(3)	142(15)	202(16)	61(17)	40(11)	24(9)	9(8)	4(10)	484(14)[a]
Secondary School	21(31)	265(29)	426(34)	101(28)	106(30)	81(29)	40(34)	12(31)	1052(31)
Primary School	34(51)	435(47)	485(38)	159(44)	164(47)	135(49)	58(49)	18(46)	1488(44)
Tertiary Inst.	1(1)	42(5)	51(4)	16(4)	13(4)	8(3)	5(4)	-	136(4)
System Level	9(13)	45(5)	92(7)	27(7)	26(7)	30(11)	6(5)	5(13)	240(7)
	67(100	929(100)	1262(100)	364(100)	349(100)	278(100)	118(100)	39(100)	3406(100)[b]
Number of Adopters									
Sent to:									
Private Address	2(3)	138(18)	193(18)	60(18)	39(13)	24(10)	9(10)	4(12)	469(16)
Secondary School	17(29)	217(28)	342(31)	92(28)	85(28)	68(28)	35(34)	10(29)	866(29)
Primary School	29(50)	379(48)	434(40)	146(44)	151(50)	119(50)	51(49)	17(50)	1326(45)
Tertiary Inst.	1(2)	19(2)	28(3)	7(2)	6(2)	4(2)	3(3)	-	68(2)
System Level	9(16)	35(4)	91(8)	24(7)	22(7)	25(10)	6(6)	3(9)	215(7)
	58(100)	788(100)	1094(100)[4]	329(100)	303(100)	240(100)	104(100)	34(100)	2950(100)[4]

Notes: [a]Percentages within each state are shown in brackets, reading down.

[b]Includes six subscriptions taken out by six preschool centres.

The subscription and adoption patterns are broken down in Table 2.1 by the institutional affiliation of the subscription, and the state in which the recipient was located. The state in which the subscriber was located was expected to be an important explanatory variable because education in Australia has been, and still is, largely administered at the state level and hence state level practices and the approach of state level administrators can influence school practice (Owen, 1978).

The type of institution was also expected to be important for there is evidence that the different forms of organisation in different levels of schooling contribute to variations in the extent of use of new knowledge. We know, for example, that innovations in curriculum are more likely to be implemented in primary schools than in secondary schools (Havelock; 1973b).

The data in Table 2.1 show that there were 3406 subscription to SET in July 1980. Of these, 484 were sent to private addresses, 1052 were sent to secondary schools or to teachers in these schools, and 1488 were sent to primary schools or to teachers in these schools. In addition, 136 subscriptions were made by, or on behalf of, tertiary institutions. There were also 240 system level subscriptions. System level groups included state education department agencies such as special education units, teachers' centres and regional offices.

Thus, across Australia, 44 per cent of the total subscription to SET were taken out by primary schools and 31 per cent by secondary schools. Another 14 per cent were private subscriptions. Although there is no means of linking these to individual schools, there is little doubt that the majority have been taken out by practising teachers or others directly connected with education.

As mentioned earlier, the lower part of Table 2.1 is concerned with the number of adopters. A comparison of the total number of subscriptions and adoptions (3406 and 2950) makes it apparent that there have been

instances of multiple subscriptions to SET. The purpose of studying adoption here is that it is considered important to estimate the number of Australian schools and other institutions which had received SET and are thus in a position to be affected by its contents. For Australia as a whole 866 secondary schools and 1326 primary schools received the materials. Of the total number of adopters, 29 percent were secondary schools and 45 percent were primary schools. The remaining adopting groups were: individuals, 16 percent of the total; tertiary institutions, two percent of the total; and system level groups, seven percent of the total.

Patterns of adoption were similar in most states. The most significant departure was in the Australian Capital Territory (ACT) where there were comparatively few 'private' subscriptions and an above average proportion of system level adopters.

A more detailed examination of the adoption of SET by schools in each state revealed further information. For example:

(i) there was a large proportion of 'private' subscriptions sent to home addresses. Do these individuals view the SET materials as being for private professional background reading? Does this form of adoption lead to a sharing of ideas as a 'second order' effect in schools?

(ii) there were different forms of multiple subscription. For example, one country high school principal ordered eight copies of SET for his school. A private school in Victoria received five copies; one addressed to the Principal, and another four subscribed to by individual staff members. Is the within school dissemination of the SET materials similar in these two cases?

(iii) many double subscriptions went to the Principal and to the school librarian. In other cases the Principal's name appeared on both subscription forms. Why have schools ordered SET materials in these ways?

(iv) there was a strong interest in SET by those in tertiary and system level groups. How are the packages being used in these groups? Do tertiary teachers actually introduce

SET to prospective teachers in classes? Why did education department Special Education Units adopt the SET materials in such large numbers?

Proportion of Schools Adopting SET

An important measure of the national impact of SET is the proportion of the total population of schools which have adopted the package. This was calculated using the data contained in Table 2.1 and from information on the number of schools in the country (Schools Commission, 1979). The results of the calculations are presented in Table 2.2. These figures represent adoption by schools and by teachers who asked that SET be sent to them via a school address. The figures in Table 2.2 do not include SET subscriptions sent to private addresses. Consequently, the figures in Table 2.2 represent a conservative estimate on the proportion of SET materials which have actually found their way into schools.

At the national level, about 18 percent of all primary schools and about 39 percent of all secondary schools received the SET package. Twenty three percent of all Australian schools have been sent a copy of SET. Whilst there are no known data available about the adoption of comparable packages, the absolute value seems to be high for a centrally produced and disseminated innovation which is not free of charge.

The data in Table 2.2 indicate differences in SET adoption levels between types of school and between states. The proportion of subscribing primary schools varied from 35.3 percent in the ACT to 11.9 percent in Queensland, the value for the country being 18.2 percent. In secondary schools the adoption level varied from 56.0 percent in Victoria to 27.9 percent in Queensland, the value for the country being 38.7 percent. Taking all schools together the adoption level varied from 40.0 percent in the ACT to 15.2 percent in Queensland. For all states, a greater proportion of secondary than primary schools adopted the package.

Table 2.2 Proportion of Schools Adopting SET Package: 1980

	ACT	NSW	VIC	QLD	SA	WA	TAS	NT	AUST
Primary									
Total No. of Schools	82	2324	2141	1231	566	616	215	95	7270
Number of Adopters	29	379	434	146	151	119	51	17	1326
Percentage Adopters	35.3	16.3	20.3	11.9	26.7	19.3	23.7	17.9	18.2
Secondary (and Middle Schools)									
Total No. of Schools	33	677	611	338	213	230	101	36	2239
Number of Adopters	17	217	342	92	85	68	35	10	866
Percentage Adopters	51.5	32.1	56.0	27.2	39.9	29.6	34.7	27.7	38.7
All Schools									
Total Number of Schools	115	3001	2752	1569	779	846	316	131	9509
Number of Adopters	46	596	772	238	236	187	86	27	2188
Percentage Adopters	40.0	19.9	28.0	15.2	30.3	22.1	27.2	20.6	23.0

At this stage it is not possible to explain why such variations exist. They might be linked to state level factors such as the availability of competing materials and also to broader issues which Fullan and Pomfret (1977) call the macro-sociopolitical aspects of schooling. Variations in adoption levels between secondary and primary schools may be due to different perceptions of teachers in the two divisions as to the relevance of educational research. These questions deserve further study.

Adoption Patterns in Victoria

The final section of this discussion deals with the adoption of SET in Victoria. The analyses presented here are more detailed than in the other sections and were carried out to answer questions such as: who makes the decision to adopt SET? what types of schools adopt SET? and where are these schools located? The choice of Victoria for further analyses was made because this information was required for a further stage of the study, reported in Section Three, which involved case studies of Victorian schools.

A 25 percent sample of adopters was drawn and each classified according to the addresses, school type and location. The results appear in Table 2.3. Four modes of address were found. These were: (1) those sent to the school, (2) those sent to the Principal care of the school, (3) those sent to a named individual care of the school, and (4) those sent to the library or the librarian. It is not possible to differentiate the position held by those in category (3) (Principal, Senior Teacher, etc.). Some were undoubtedly Principals and others classroom teachers. However, it is possible to conclude that at least two thirds of the total adopters in primary schools and at least one half of adopters in secondary schools were, nominally, the Principals. There is thus a large difference between the school types in this regard. Another significant variation is the proportion of SET packages sent to school libraries, secondary school librarians being about five times more likely to be the initiator of adoption compared to their primary

Table 2.3 Adoption of SET Package in Victorian Schools: 1980

Addressee:	Primary	Secondary
The School	54.0	42.3
The Principal	12.5	14.1
Name (Principal or other)	29.8	21.8
Librarian	3.8	21.8
	100.0	100.0
School Type:		
Government	79.8 (82)[a]	55.1 (62)
Independent	3.8 (18)	20.5 (28)
Catholic	16.3	24.4
	100.0	100.0
Location:		
Metropolitan Melbourne	58.7 (41)[b]	57.7 (63)
Other	41.3 (59)	42.3 (37)
	100.0	100.0

Note: [a]Values in brackets represent the percentage of schools in these categories in the population of Victorian schools.

[b]Dr J Ainley, ACER provided data about the percentages of school types in the population.

school counterparts. The secondary school library could thus be playing a key role in the acquisition of materials for staff use in addition to providing resources for school pupils.

Adopters in Victoria were also classified according to school type. The figures in Table 2.3 show that almost 80 percent of primary school adopters were government schools; this proportion closely reflects the proportion of these schools in the population. Just over 55 percent of secondary school adopters were government schools, the remainder being Catholic or independent. At the secondary level there was an over representation of adopters from these latter two categories compared with the proportion in the total population.

Location was also examined. The data indicate that primary schools outside metropolitan Melbourne tended to adopt fewer SET packages than might be expected from the geographical distribution of all primary schools in the state. The reverse is true for secondary schools. However, there is no marked preference for adoption by schools according to location. Similar results were found by Owen (1978) in his study of adoption of ASEP materials. It is evident that, in contrast to the situation in the USA, distance from the distributor is not an important variable in explaining patterns of adoption of centrally produced resources for schools.

Concluding Comment

The extent of adoption of SET by schools across Australia has been outlined in this section. The fact that over 3400 subscriptions have been taken out in 1980 and that at least 2900 schools have received the SET package is a promising result for the ACER. Whether or not the potential of the SET materials to influence school programs is fulfilled is another question.

Reasons for the apparent success of the spread of SET into schools are known at this stage. Other research suggests that it may be dependent on:

(i) the nature of the innovation. The SET package has characteristics consistent with those suggested by Rogers and Shoemaker (1971) as being linked with high innovation adoption. SET is being subscribed to at the present time on a year to year basis, it can thus be scrutinised by users with a minimum of financial risk. Also it is not a complex package in terms of its use in schools and thus appears not to pose a threat to those who are wary of change. Furthermore, its low cost ($10/year in 1980) and the range of articles make it potentially attractive to a wide audience.

(ii) the efforts of the resource group or distributor. ACER has mounted an extensive campaign to interest teachers in the SET package. In addition to an introductory SET in 1979, ACER has sent brochures and newsletters throughout Australia. This use of redundant tactics has been shown in other studies of innovations to promote adoption (Havelock, 1973a, Emrick and Agarwala-Rogers, 1978).

SECTION THREE: CASE STUDIES OF THE ADOPTION AND DIFFUSION OF SET

General Aim

The general aim of this part of the investigation is to assist us to understand how diffusion of knowledge takes place in educational institutions. The literature review in Section One revealed that most of the previous work in this field has been in social contexts other than education, and thus the investigation discussed here is largely exploratory. Its focus relates to the 'Knowledge Diffusion' areas discussed in the literature review and is based upon a series of case studies of the adoption and diffusion of SET. We have attempted to identify and analyse the reasons which have prompted subscribers to adopt SET and the contextual factors influencing the subsequent diffusion of SET within the social system concerned.[5]

Conducting the Case Studies

Methodology

The case study approach was chosen partly because it is an appropriate way of illuminating complex situations, and partly because the exploratory nature of the investigation required an open hypothesis-generating approach rather than a more rigid hypothesis-testing style of research.

The cases chosen for study were drawn from a list of Victorian subscribers to SET, as at July 1980. We considered drawing a random sample from the list, but a detailed inspection of the adoption patterns presented in Section Two revealed a set of apparently

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[5] The terms 'diffusion' and 'dissemination' are often confused in literature on change. We use them in the following ways. 'Diffusion' is the general term used to denote the general spread of knowledge, usually occurring without the assistance of planned efforts to increase the rate or extent of knowledge flow. 'Dissemination' is the planned effort to bring about an improvement in the rate and extent of knowledge flow.

significant clusters of subscribers. We decided that selection of cases from these clusters would be a more fruitful way of sampling. For example, one of the most obvious characteristics of the subscription data was that schools represented only a proportion of the total subscriptions, with individuals (private addresses), tertiary institutions, and systems groups or units (such as teachers' centres) all being strongly represented. Another characteristic was the number of copies ordered by some adopters. While most orders were for single copies and many were for two copies, there were examples of orders for up to nine copies. These multiple subscriptions often consisted of a number of individual subscriptions in different names rather than as a single order for multiple copies. We were intrigued to find that some schools, which we know to be relatively large, subscribed to only one copy while some smaller schools took multiple copies. We thought that these variations in adoption may have linked to variation in the degree of diffusion of SET within these schools.

The cases were thus selected on the basis of their suspected potential for yielding interesting and varied adoption/diffusion situations (see Appendix A for a descriptive list of the situations involved). As the discussion will show, a range of situations did result from this selection procedure, but the criteria used to select them bore little relationship to what was disclosed by the analysis of these situations.

The schools and individuals chosen for study were initially contacted by telephone. Purposely, an interview time within a day or two of the phone call was requested to reduce the possibility of any undue preparation for the case study. In some cases, the initial phone call revealed that within-school diffusion of SET was virtually non-existent and that little would be gained by an interview. This information was of intrinsic interest, and where possible the planned visit went ahead in order to determine why little diffusion of SET had taken place.

The interviews were conducted by one of the research team and, with the permission of the interviewees, were recorded on tape. Notes were also taken, to be filled out later by reference to the tape. A draft of each case-report was written and the other member of the research team then read the drafts, using the tapes and notes to monitor the reliability of the account. His comments, in some cases, led to a follow-up phone call or interview to gain further information or clarification. Copies of the drafts were then returned to the interviewees with the request that they check them for accuracy.

The case studies did not attempt to cover completely the diffusion process of SET within each context, because of the limited time available. In general, we focussed on the decisions which led to adoption and the initial attempts to disseminate SET in the schools.

The interviews were loosely-structured around a series of key questions. These questions can be divided into three groups: those concerned specifically with adoption, those concerned specifically with dissemination, and those related to the presentation and communication of research information. The 'adoption' questions established who made the decision to subscribe to SET, and the influences which brought about this decision. The 'dissemination' questions focussed on the procedures by which SET was disseminated within the institution, and the uses to which it was put. The 'presentation and communication' questions related to the methods by which research findings are best transmitted in educational contexts, and the format of SET.

Presentation of Findings

No case study has been reported as an entirety. Rather, we considered it to be more useful to extract particular examples of incidents or practice to illustrate or emphasise certain points which have emerged. However, we have included in Appendix B one complete case as an indication of the general style of the studies.

Questions used in the interviews have been used as the framework for the discussion which follows. Conclusions are then drawn, and recommendations made for further studies in this area.

Findings from the Case Studies

Whose Decision to Subscribe?

With only a few exceptions, the person to whom SET was addressed made the decision to subscribe without reference to or consultation with other staff in the school. One exception was found at South Eastern High School[6] where the librarian had placed the subscription order as a result of staff response to a brochure describing the Special Issue of SET in 1979. The brochure was circulated by the librarian around the school's Curriculum Committee, the members of which were described by the librarian as "the initiators of educational innovation in the school," and, through those members, the brochure was seen by other members of staff. A number of people indicated an interest in SET. The librarian would, however, have taken out a subscription for a periodical such as this even if only one member of staff requested it, for "at least one person is educated." This policy was supported by the Curriculum Committee.

At Three Separate Subscriptions Primary School, three copies of SET were subscribed to, addressed respectively to the Principal, the librarian and, by name, to the Deputy Principal. Each of the three decisions to adopt was made independently, although the Principal thought that the subscription in his name could have been the result of a request from a staff member, but he could not recall clearly. The librarian explained that with most items, if she felt they would be a "good buy" (as with SET), she went ahead and ordered them, but if the material related to a specialist area, she consulted with specialist teachers or subject coordinators before placing an order. The Deputy Principal placed his order as a private subscription, but he made his copy of SET available for school use, after which it would "end up at home." Initially, none of the three knew that the others were subscribing.

The Principal of Small Primary School made an independent decision to adopt, but pointed out that this was not always necessarily the

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[6] Case Study situations are given a descriptive name - see Appendix A.

the case. Usually, the librarian would decide about subscriptions to periodicals but it was "anyone's privilege" to suggest subscriptions. A similar attitude existed at Small Tertiary College, where subscriptions to journals were as likely to arise from staff recommendations as from library staff decisions, and, even since SET has been available from the College library, there had been some recommendations to subscribe from staff, apparently unaware that it was available in the College.

Principals and librarians clearly have power in deciding to adopt. Moreover, subscribers in other roles seemed to have little trouble in gaining approval. The coordinator of Northern Teachers' Centre was responsible to the Management Committee of the Centre, and made recommendations to that body about which purchases to make. Expenditures of SET subscription size, however, were automatically approved.

A school counsellor at the Single Subscription Independent School said

> "The information on SET came and it sounded really good, and I thought I'd like to get the specimen set and look it over. It was only five dollars or something and nobody complained so I went ahead and got it, and thought it was worth subcribing to."

Why Subscribe?

The reasons for adoption were related mainly to the content and presentation of SET, and, with few exceptions, stemmed from an advertising brochure received through the mail from ACER. One exception was that of a subscription where SET was sent to a home address. The subscriber was Deputy Principal at a primary school in the Eastern suburbs of Melbourne and she took her copy to school and made it available for use there. Her decision to subscribe came as a result of a visit to the ACER for another purpose, when an information officer mentioned SET to her as a new publication and showed her a copy. Her feeling that many of the articles were related to primary schools and the attractive layout of the articles were features that appealed to her.

Another case where the mailed brochure was not the initial contact was Small Tertiary College, where a copy was addressed by name to a lecturer who had the role of Curriculum and Materials Development Officer in the Education Division of that College. The subscription was paid by the Division, and he decided to order SET in his Curriculum role because the library copy was often not available when he wanted it. "It now comes direct to me, and that's the most effective method," he said.

Most subscribers responded to the advertising brochure because they anticipated that SET would meet a particular need. Although they shared a common perception of the need, they occupied different nominal roles in their respective institutions.

The Principal at Three Separate Subscriptions Primary School expressed his feelings in general terms, saying that it was "definitely worthwhile" to have research information available to teachers, even if they found only one idea in each issue. The Deputy Principal at that school made a more precise statement: "The administration felt a need to update educational information... We're usually too tied-up in day-to-day activities to keep in touch."

At Large High School, the librarian in charge of periodicals had ordered SET because she considered it had potential interest. The price was reasonable too, she thought. In particular, she felt that most teachers don't have time to keep up with current information and that SET would "make them aware of what is happening, and hopefully there might be some bibliographic information which they would be able to follow up in their particular area of interest." A lecturer in Education at Large Tertiary College explained that he decided to subscribe because he saw SET as being useful for keeping himself in touch with relevant research, and possibly for use with students. In contrast, another lecturer at the same College (but in a different subject area) had different priorities, saying, "Usefulness to students is the first criterion of value, and usefulness for me, second."

The school counsellor at the Single Subscription Independent School thought that the advertising for SET expressed a truism, in that "Once you finish your training you forget about broader issues of education. You think about day-to-day survival sort of things." Her impression of many of the teachers in one section of the school, where she was based the year before, was that

> "... although they're very competent, they've been there for a long time and perhaps they'd be interested in widening their horizons a bit. They don't seem to actively seek out new information, new ideas. There's no discussion in the staff room about issues, it's just chit-chat."

At Multiple Subscription Independent School, the Deputy Headmaster held a similar view:

> "There is a problem, like other schools, in getting any discussion of education going... It is very hard to get the classroom teacher to spend much time thinking about theoretical issues."

Although the Deputy Head had held this view for some time, there appeared to have been a precipitating factor in his decision to subscribe, through his role as Convenor of the Curriculum Committee. Last year, he explained,

> "... there was one person on the Curriculum Committee who was always agitating that the Committee itself should circulate this sort of thing, and he was pressuring me to do it, so that this came along as a godsend at that point."

Allied with the feeling that the content of SET would enable readers to keep up-to-date with broad educational issues and research, was the feeling that the brevity of the SET articles was a major asset. "SET has finally cracked it for the right formula - restrict the quantity of information," said the Deputy Principal of South Eastern High School.

The Principal of Parish Community School spoke of the major problem of finding time to read research, and one of the main attractions for him was that articles could be read in less than 15 minutes. The school counsellor at Single Subscription Independent School echoed and extended this point of view by commenting that the articles were well-

summarised and were "... not at all threatening... No high-powered jargon, short enough to read in ten minutes, not all bunched-up tiny printing like a lot of the journals have."

How Is SET Disseminated in Schools?

This question reflects a major aspect of this study; an attempt to understand about the communication of information and the factors which may hinder or assist the flow of knowledge. We found situations where what might be termed 'passive' dissemination existed, and others where a more active or structured procedure operated. There were some clear examples of 'barriers' to dissemination and some cases where facilitating factors came through strongly.

One example of what we would call the passive style was that of Northern Teachers' Centre. The Co-ordinator of the Centre saw it as a resource centre, making a range of materials available for teachers to browse and decide if they wanted to buy them for their school. He aimed simply to create an awareness of what was available, and didn't know if he would recommend to the Management Committee that they subscribe again to SET in 1981 because "it would seem that it hasn't been borrowed." Other similar situations were revealed by our preliminary phone calls when selecting cases to study, such as a Special School where, the Principal said, "We leave the material available for staff to look at."

We had expected that the independent school which ordered nine copies would have had some form of controlled dissemination but, in fact, it had a fairly passive procedure. The Deputy Headmaster, to whom the copies were addressed by name, said that his idea in ordering multiple copies was "to spread them around," but he seemed a little surprised to find that nine copies had been ordered. Subscription records show that they were ordered in two lots (one of five followed by one lot of four) and he was inclined to think that this could have been an oversight on his part, or that the school's Accounts Department had ordered twice. He thought that he would have ordered about five or six.

He explained his distribution procedure as follows:

> "I keep one, which I currently can't find which means I've lent it to somebody. I give the Headmaster one, the curriculum coordinator one, the (religious) community get one, and I put about five in the staff room."

He had distributed SET without comment, "not because I wasn't in favour of doing it, but because I didn't get around to it."

The Staff Common Room copies were placed on the table at first, then after a while on a magazine rack. The Common Room was where staff gathered at morning and afternoon tea for a chat, and the magazine rack, on the day of our visit, held many titles, including 'Time'. 'New Scientist', 'The Listener', and 'The Educational Magazine.'

A less passive procedure was carried out by the Principal of the Three Separate Subscriptions Primary School in distributing SET and other written materials. He considered that it was the role of subject coordinators to disseminate information amongst the teaching staff.

> "When it first comes in, when you open up a thing, you think 'Well, that's particular information for Peter,' so you send it across to Peter. Obviously, if Peter sees something there it would be his role to let the staff know there's something they could look at."

The librarian at that school took the copy addressed to her and placed it on a display stand in the staff room, along with other periodicals and brochures. She wrote the titles of the pages in big block letters on a sheet and taped this on to the front of the printed cover. Besides providing a more prominent display to catch teachers' attention when they were browsing at the display stand, the librarian felt that the title cover provided a more permanent record of the contents, for, as the printed contents sheet was loose, there would be no record of what should be in the folder if the contents sheet was lost.

Besides the list of titles taped on the cover, the librarian also placed a notice about SET on the board in the staff room "directed

to people who were doing study or people who were writing something." However, "some won't read it no matter what you do," she said.

The Deputy Principal took his (private subscription) copy home to "sift through it" to see which articles might be of relevance. Anything which he felt would be of interest he passed on to particular people, such as a reading article to the Language Coordinator, then placed the remainder of the issue on the rack in the staff room. He said

> "There should be at least one copy in the staff room, but in some ways it is better if copies disappear and are read by someone rather than stay on the shelf and never read at all."

The Deputy Prncipal also placed a notice in the weekly "What's On" sheet, to advise staff that SET was available in the school.

The most structured form of dissemination found in the schools which we studied was at South Eastern High School. As described in the "Whose Decision to Subscribe?" section, the Librarian and Curriculum Committee used a circulation procedure to determine the degree of staff interest in subscribing to SET. When the 1979 Special issue arrived, it became part of the professional library and was circulated around the group of about 12 interested people. The librarian believed that they would have shown it to others in the staff room, and the names of those who were keen to see the next issue were added to the original circulation list. This list was further extended by the Librarian when she had seen the contents of the first SET issue for 1980 and considered that others could be interested.

The Librarian listed the article headings for that issue in one of the school's daily staff bulletins. As a result, a few additional names were added to the circulation list. For the next issue, she was planning to run the full contents page in the bulletin each day for a week, as some staff may miss the bulletin on particular days.

The issues of SET were kept intact. The librarian explained:

> "I thought of breaking it up but I feel that sometimes someone asks to see something like, say 'gifted children,' and if you

> just did that they might miss out on say, 'Specific Learning Disabilities' and that teacher could equally be interested in that... The trouble with all this information is exposing people (to it) at the right time."

The current issue had not been indexed at the time of out visit, but a record card was kept to book it out and in for each person, whether they were on the ciruclation list or not. The Librarian considered that she could "keep tabs on it" better that way. Although the Deputy Principal had the copy for about a week, two days was more typical for the other borrowers listed on the card.

One of the borrowers was the coordinator of the Mathematics and Science area. As a coordinator, he said he was usually circulated with materials that come to the school. He had not been aware of SET before the Librarian circulated it to him, but felt that it contained "worthwhile topics and issues." At that stage, he had not applied anything arising from SET in his teaching, or circulated it further amongst the other Maths/Science staff. If a topic particularly relating to that area were published, he anticipated that to raise it at a Faculty meeting would be the most appropriate way of bringing it to the attention of the other staff.

The influence of librarians was also apparent in the dissemination procedure used at Small Tertiary College. Some staff elected to have copies of the contents pages of certain journals sent to them from the library when each issue arrived, and the Periodicals Librarian also scanned the contents for topics that she knew particular staff were interested in. In her words,

> "There are the ones (staff) who want a contents page of every issue of a journal, and occasionally we sort of add to that by deciding they need that contents page, whether they've said so or not. Or, if you know that someone was particularly interested in that topic 'Attitudes to Reading', then you would alert that person and say, 'Look, there's a recent article.' Because I've thought that a lot of the topics were relevant to, say, particularly some of the B Ed 4 topics, I would have sent that to the Head of the Education Division and asked him to circulate it to his staff or particular staff that were interested. He knows what's going on in the Division better than I do.

> If a reader or client or whoever initiates demand for things librarians are happy to provide it, but if there isn't any demand then it does depend on the librarian's eagerness to disseminate. You're trying to work up a sort of belated initiation, create an interest so that they'll demand more."

As explained earlier in the "Why Subscribe?" section, another copy of SET came directly to the Curriculum and Materials Development Officer in the Education Division at this College. When he received SET, his procedure was to extract the articles that he thought would be interesting to individual members of staff. He said he usually referred the articles verbally, but sometimes would give or lend articles. If he gave the original article, rather than a copy, "I say I'll be back in an hour to get it." Eventually the copy of SET is housed in the Curriculum and Materials Centre, where resources for staff and students are located.

Originally, he circulated a notice around the Division to advise staff of the contents of SET, but it had little effect.

> "It was just another bit of paper... staff are very busy. When you actually poke something under their nose, they are more inclined to read it."

The Head of the Division, to whom the Periodicals Librarian had sent a copy of the SET Contents page, said that his procedure was to look through the page and recommend articles according to his knowledge of staff interests. He did this by marking with an asterisk titles of articles in which he thought members of staff may be interested, together with that person's name. The Head of Division's secretary then drew the attention of those people to the relevant article.

With no formal coordination of dissemination between the Periodicals Librarian, the Curriculum and Materials Officer, and the Head of Division, it was possible that an individual member of staff in the Education Division may have the same article referred to them through more than one avenue.

Barriers to Dissemination. In several of the cases there were significant barriers to dissemination, even where the disseminator was relatively committed to their task, or where it appeared that SET was generally available to users.

One barrier to dissemination was the failure of adopters to pass the material on in an internal distribution system. "I know we received it, but I can't find it," admitted the Principal of Small Primary School, when asked about dissemination of SET. Our study of that case, consequently, was only able to be conducted at a fairly general level. However, about a week after our visit, the Principal rang to say that SET had been found in the "too hard" basket in the library. The teacher acting as librarian was not trained in librarianship, had not known how to catalogue SET, and had been awaiting advice from a district adviser.

A second barrier to dissemination was rooted in the failure of a communication system between senior staff members. At Large High School, when the first 1980 issue of SET arrived in the library, the librarian punched holes in the margin of each sheet and placed the sheets in a ring-binder. She then added a typed list of the names of the subject coordinators and handed the binder to the first person on the list, "...specifying that he should have a good look at it and pass it on to the second person on the list. And that was the last I heard of it."

Our visit occurred about three months after the copy of SET had been placed in circulation. The Librarian had thought that staff were circulating it amongst themselves. She had only realised that this was not the case when inquiring about its progress after we had rung to make an appointment to talk with her about SET. Circulation lists of this sort were not a typical way of disseminating information through the school, the Librarian said, but she had thought it appropriate for SET,

> "... because of the way the material is presented. I was afraid if that material was left in the staff room as most other materials are, people would help themselves to the sheets which interested them and, because some of the sheets covered a variety of interests, other people wouldn't have access."

Alternatively, photocopying or duplicating copies for each faculty "would have involved a lot of work," so the circulation approach was

chosen. In future, the Librarian intended to continue to ring-bind and circulate SET in a similar way, but to have it returned to her to be passed on to the next person on the list in order to better control its progress better.

A third barrier to dissemination occurred when, for one reason or another, circulation of new information received low priority. Parish Community School had only recently moved into the second stage of their open-design building at the time of our visit. The first issue of SET for 1980 was on the Principal's desk, in a small pile of papers and folders. Although the issue had arrived some time ago, moving into the new building had caused some confusion, the Principal said.

> "I've announced that I've received it, but I've done nothing else with it other than read about three articles and kind of ear-marked for myself that I must bring that up."

He then remembered that he had copied one article (although he had forgotten which one) and had pinned the copy on the staff room notice-board.

The Principal's intention was to use relevant articles to stimulate staff discussion, by photocopying the articles concerned for distribution to the staff. The choice of articles might be made by him, or by staff after seeing the range available.

A lecturer in an 'academic' subject area at Large Tertiary College also had the first 1980 issue on his desk at the bottom of a small pile of papers. A heavy workload had prevented him looking at it in detail. His main intention was to use SET as a resource for students, but he had not referred any students to it at that stage, and would not do so until he was familiar with its contents.

Sometimes the barrier to dissemination was due to a combination of factors. The school counsellor at Single Subscription Independent School had attempted disseminating SET, but with little success. She saw it as her role to disseminate research information, and her original idea had been to "..flip through and see that this is relevant

to those people and just ask them if they'd like to read it."

She had given articles to staff "once or twice" but suspected that the articles were not read. The reasons for this could have been that she did not have an officially defined dissemination role, that she was a relatively new member of staff and did not want to appear too 'pushy', or'incorrect selection of people' when recommending articles.

Significant Factors in the Dissemination Process

Opportunity or timing is a significant factor governing the dissemination process. Required or relevant information may be available but a person who needs that information will not necessarily come in contact with it at the time that they need it unless there is a linking agent available and able to assist at that time.

The school counsellor at Single Subscription Independent School described an example of a thwarted opportunity to disseminate SET information:

> "The other day, I was in the Common Room and a couple of people were talking about setting a test. They were talking about what they were going to test, and what day and so on. I didn't think any more about it until I came back and I was looking through SET and there was a really good article about setting exam questions and the whole issue of multiple-choice, and aims and objectives. Those are words that everybody learns and uses when they're a student, but they seem to very quickly fade once you get out into the real world. You sort of start thinking 'Yes, I'll test Units 5 to 14' but why you're going to do that doesn't really enter into it. My first reaction was 'Oh, I must give them that article,' then I thought, No, that might be a bit high-handed. I'll ask them if they're interested in looking at this whole thing about setting questions. The other problem was that I was then to go somewhere else and I wasn't going to see those two people together for another week, so it didn't ever eventuate."

Looking at timing from a slightly different aspect, the teacher who disseminated SET at Eastern High School pointed out that material which may not seem to be relevant at one time may become relevant later:

> "There might be an article in this one that no one will be very interested in until second term next year... It's long-

> term effectiveness lies not within its control. It lies within the dynamics of how the people within the staff within the school see the importance of curriculum at any one time, and the importance of research materials to their curriculum decisions."

Clearly, schools must develop mechanisms for encouraging teachers to seek out resources when they are needed, and must arrange for those resources to be available at that time. The linking role which is necessary here has two important aspects: a commitment to dissemination and a knowledge of staff interests and attitudes to dissemination. By commitment we mean that a person has a dissemination role specified as part of their work, or they take it upon themselves as a role because they perceive a need. Librarians are one group of staff for whom it might be expected that dissemination would normally be a part of their job. However, as we have described, it appears to occur more on the initiative of individual librarians rather than as a result of administrative or curricular policy, and with wide variation in methods and commitment. Principals or Deputy Principals, too, might be expected to disseminate resources as part of their normal work, but there were few examples where they, or any senior staff, carried out active dissemination roles.

A dissemination role was specified as part of the work of the Curriculum and Materials Development Officer at Small Tertiary College, but this was the only such case which we encountered. Some unlikely linking agents were revealed, where people saw it as their role to disseminate research information but it would not normally be expected to be part of their work. Two such examples are considered here.

The first is that of the school counsellor at Single Subscription Independent School. At the time of our first meeting, her thinking about and attempts at dissemination of SET indicated that she saw it as part of her role. Her relative newness as a member of staff was an inhibiting factor, however, and she expressed some doubt about how far she should extend this role. "If they don't want to read it I don't see that I should force them," she said.

Her viewpoint strengthened later for, in a postscript which she added to the draft of the case study returned to her for checking, she said:

> "I see the dissemination of material like SET as part of my responsibility in the school, but I haven't yet solved the problem of the best way to do it."

The second example of role-adoption is that of a member of staff at Eastern High School. He is a teacher of English, and, through the English Faculty, ordered SET because he "thought it might be interesting." He was not on ACER mailing lists, and claimed no special interest in research, but thought that the SET advertising brochure was passed on to him in his capacity as an audio-visual adviser. "Anything that they're not too sure where it should go, gets sent to me," he explained. If the brochure had not come to him, he believed it would have gone to the library, and staff there would have ordered SET after checking likely teacher-response. He felt that SET would be interesting, both for the English Faculty and for the school generally. "We probably have a lack of research information in accessible forms. That was the thing that appealed to me," he said, going on to explain that by "accessible" he meant "shorter", taking less time to read.

It was important, in his view, for teachers to keep up with research findings because "it improves your teaching if you have greater knowledge of what else is happening... I don't think that any of us do sufficient in that respect." When the copy of SET arrived at the school, the teacher went through it "to see what is relevant to what I might be interested in, which is not always what I'm teaching." In an incidental fashion, he discussed its contents with the Principal and Deputy Principal. Next, he referred articles to Faculties:

> "Material which is relevant to individual faculties, I mention to them, pass on to them, show to them. So it's disseminated on a fairly casual basis."

In most cases, he gave the original article to the staff member concerned, to be returned later. Staff would photocopy articles before returning the original to him, in some cases.

The master-copy of SET was kept on the teacher's desk in the Faculty staff room but was easily accessible to staff. No record of loans was kept but four or five articles, he estimated, were out on loan at the time of our discussion. When he passed on an article to another member of staff, the approach was simple:

> "I just take it along and show it to them. I've usually skim-read it so I can tell them roughly what it's about... Because of the work with the audio-visual stuff, people are used to me going around and telling them that such-and-such is available.. I have to look at things right across the curriculum."

Besides a commitment (whether specified or perceived) to dissemination, a knowledge of staff interests and attitudes is an underlying necessity if resources are to be directed in an individualised way. Those responsible for internal dissemination in institutions where SET was actively spread amongst staff all had knowledge of individual educational interests of staff. This matching of articles in SET to staff members' needs seemed to result in more effective dissemination than a routine circulation to coordinators of subject areas.

For example, at South Eastern High School, the Librarian was able to add teachers' names to the basic circulation list, after seeing the contents of the first 1980 issue, because, as she put it with some pride, "I know my clientele. I've been here a long time!"

The counsellor at Single Subscription Independent School recognised that, as she became more familiar with the school and its staff, she was perceiving differences between members of staff in that "some wouldn't be thrown by being asked to read something" while others might feel threatened and might take the suggestion as being critical of them.

At Small Tertiary College, the periodicals staff of the library extended circulation lists and came to know what topic areas were of interest to teaching staff in an 'interactive' way. Sometimes this knowledge arose from general conversation and sometimes from teaching staff making specific requests. In other cases teaching staff came to the library

> "looking for material or something and then you remember that they're doing a project or an essay or a paper."

The reference section staff, too, were important in supplying details about teaching staff for whom they have been asked to prepare bibliographies. However, staff changes and out-of-date request-information meant that an accurate picture of current dissemination needs was difficult to obtain.

The Curriculum and Materials Development Officer in the Education Division of the College was aware of staff interests as a result of the institution being relatively small. The size of the institution contributed to close working relationships among staff. His dissemination activities were not, in practice, confined strictly to the Education Division, for he had also photocopied multicultural articles for Arts Division staff, being aware of staff interests there because he had worked previously in that Division.

Commitment to dissemination and knowledge of staff interests and attitudes are dual aspects of a linker, therefore, which appear to facilitate dissemination on an individual basis. Barriers to dissemination, in the cases studied, have arisen from a number of sources - inexperience of a librarian, a hold-up in circulation, building extensions, lack of time, relative newness on staff, and thwarted opportunity.

How Is SET Used?

The second of our dissemination questions investigated the uses to which SET was put. The anticipated "keeping up-to-date with educational issues" use for enlightenment, has already been described. This question was also intended to determine whether teachers had found instrumental or legitimative uses for the package.

There were few examples in our studies where SET articles had been used instrumentally in any specific way, and this is no doubt related to the 'timing' or 'opportunity' factor described in the last section. General enlightenment was evident in the comments of many, such as the Deputy Principal at South Eastern High School who said that, although no particular article had stuck in his mind, SET was "affecting my point of view, I feel."

At Eastern High School, use of the articles so far had not been so much for "keynote" purposes as for background information or reference sources, such as for papers prepared for "curriculum days".[7] For example, the "School-Work Transition" article was used when discussing alternative courses in the senior school. Most of the 'careers-oriented' articles from the SET special issue were passed on to the Careers Teachers, and it was hoped that relevant articles would be used with parents involved in a reading program soon to begin at the school. Some articles had contributed to discussion at union meetings. However,

> "... the thing used most effectively from the SET material that's come so far has been the diagram which gave the different levels of schooling in different states. That was just seized upon, and it's been up on the (notice) boards because it was of very immediate value to people who had to talk to students who came in from interstate, of which we have a lot."

The lecturer in Education interviewed at Large Tertiary College said that the paper on youth unemployment had been used both by himself, for 'background', and by students. "I had the article there (in the class) and some of them picked it up and had a look at it and they passed it around." He was also using in classes the article by Sturman on school-to-work transition, to contrast with his own view.

At Small Tertiary College, the main use of SET appeared to be as a resource for student research projects, particularly those in B Ed Year 4, but it was also seen as a useful resource for lecturers. The Head of the Education Division commented that "you might get fifteen minutes input to a lecture from an article." About two months prior to our visit to that college, a system of usage statistics had been instituted by the Library Staff because it was suspected that, although loans of journals were low, usage of them was high. Based on the

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[7] A 'curriculum day' is an opportunity for staff in a school to hold discussions about the curriculum offered in the schools. Students are generally dismissed for the day to allow time for staff discussion.

number of times books or journals were reshelved, these figures showed that, over the two months concerned (September-October), SET holdings had had six uses. The Periodicals Libarian felt that

> "For a fairly small college, that's reasonable use when you compare it with journals like 'Comparative Education' which is obviously (used more) and (with) some things which haven't been off the shelves at all in that time."

An interesting point which arose from the comments of several people was the usefulness of SET for teachers undertaking further study. The librarian at Three Separate Subscriptions Primary School was quite clear that

> "The main thing that interested me was that it gave summaries of papers, and through experience I know that many teachers, particularly those doing assignments or who need extra material, will read it."

The teacher/audio-visual coordinator at Eastern High School who disseminated SET said that, at any time, there was a "certain proportion" of teachers constantly interested in research information and "quite often they're those who are doing M Eds or things like that." The opinion of the Periodicals Librarian at Small Tertiary College was that staff were more likely to search out information for a particular study or paper that they might be concerned with, rather than for background material for their classes with students.

How Can We Best Communicate Research Information?

Research Information in General. During the interviews, respondents were encouraged to reflect on the problems of knowledge diffusion in the broad context, in addition to giving us information about the dissemination and use of SET. Comments ranged across a number of dimensions, such as external-to-internal communication and internal-to-internal communication, and knowledge about SET as distinct from knowledge in SET. Many enlightening opinions were given about these aspects. For example, size of school was one factor described by the Principal of Parish Community School as important in internal communication. Even though the school was still relatively small with about 200 pupils and nine staff, "when there were only three of

us it was remarkable how much information got around from one to another. With nine it's a different story," he said.

"A workshop/lecture basis" was the most effective method, in the Principal's view, for introducing new knowledge into the school from an external source but a printed format was still needed because people could follow it up at their leisure. His opinion was that people benefit more from being able to read something because 'while they're reading, they're listening as well, virtually." Printed formats were not successful if they took too long to read though, he explained, returning to a point made previously about limitations of teachers' time. To overcome this problem to some extent, one possible solution which he saw was

> "If a book does come out, to say 'Look, it's your turn. Would you two like to go away and read that and come back to us?" Which comes back to the workshop thing, I guess, even if it's just on your own local level."

As a means of communicating research information to school staff from an external source, face to face contact at conferences was mentioned by most people as the best way of communicating research information, although with some qualifications. Going to conferences can be a "lot of effort," said the counsellor at Single Subscription Independent School,"and although they can be useful, the coverage is of a limited range and a lot of information has to be absorbed. The SET material however covers a wide range. It might not contain something that you specially want to know but it's interesting. The Mathematics/ Science coordinator at South Eastern High School commented that there were "difficulties in getting out of school" to attend conferences, and that a printed format was most efficient because it can reach more teachers.

For the Education Lecturer at Large Tertiary College, conferences and SET were not comparable sources of research information because conferences which he attended were related to specific topics or themes, whereas SET covered a wider range. He went on to put forward a view on the general usefulness of educational research:

> "So much of the work that's done in educational research in a semi-laboratory situation, in my view, is next to useless in terms of helping people who work in the field, and yet a great deal of the educational research literature is precisely that sort of highly-controlled, in some way or another researcher-controlled,evidence. I don't think that's useful in many cases."

However, he believed that student teachers should be encouraged to see educational research as important. He saw it as a priority for them to be able to "articulate theoretically the premises and assumptions on which they operate as teachers." This process should begin with self-evaluation of their own situations, then advance to comparisons of these findings with reports of other peoples experiences. He summed up his views by saying, "I would argue against people seeing research as having some independent validity over and against their own experiences."

The Deputy Principal who took her private copy of SET to be used at school said, when asked to comment about communication of research findings, "Oh, it would be just lovely to have one of the authors come to talk to us about their research." Conferences and in-service programs, she thought, were of limited use because "practical help is seen as more useful by staff than theory."

Conferences were thought to be the best method of research diffusion by the staff interviewed at Small Primary School, but printed formats were thought to be more economic because a potentially wider audience was reached. Even so, a printed format was not the most effective they thought, because, for many reasons, a majority of teachers did not look at printed reports of research unless they were 'sold' to them. "If you use tapes they won't listen, if you use films they don't have time to discuss," was a further comment.

They need to 'sell' research information was a view frequently expressed, some of which were referred to in the discussions about specific dissemination procedures. The Principal of Parish Community School held such a view, saying that research is

> "... really relevant for teachers, but I don't believe that all teachers see it that way, though, and this is where I think a Principal's got to sell it sometimes. I find, for example, just to say that I've got this really interesting article and it's available for everybody to read just doesn't work effectively enough to warrant the work that's gone into that research. But I also find, too, that if you say 'Look, here is an article that I found interesting. Here is a copy. Would you all like to read it so tomorrow we can talk about it at the staff meeting,' people find that 'Ah, yes, that's interesting.'"

Most respondents agreed that printed formats were the most efficient, if not the most effective, method of communicating research information. The Periodicals Librarian at Small Tertiary College held this view in a qualified form. She believed that the effectiveness for users of a printed format depends on the time when the user was educated, for although

> "... students are now more familiar with other formats and perhaps more accepting of it... I suspect that there's a basis in favour of print among the people who are lecturing. There's still something very easy about a book... If SET was in micro-fiche, there would be some resistance."

About SET in Particular. In relation to 'selling' or promoting SET to make the initial external-to-internal link, several people suggested that a broadsheet for display on the staff room noticeboard would be an effective method. The Deputy Principal of Small Primary School referred to the Victorian Education Department's "News Exchange," which is of broadsheet format, saying that it was widely read because of its size. "Everyone can see it," he said, suggesting that a broadsheet to accompany SET could advertise the contents (perhaps with short summaries of the articles, someone else proposed) as well as the fact that the latest edition was available. In this case, the proposal was for the external body (ACER/NZCER) to provide the basic material to encourage the external-to-internal link. Alternatively, with SET copies to hand, disseminators might prepare their own promotional material to encourage dissemination. An example of this was the idea of the Deputy Principal of South Eastern High School to print paragraph extracts in the school's daily bulletin to 'hook' staff and encourage them to request the full article. The Librarian at Three Separate Subscriptions Primary School provided another example (described previously), with the hand-printed contents sheet, and notice on the staff room noticeboard.

The SET Format

There was strongly-favourable acceptance of the loose-leaf format, although opinions varied as to whether the collection of articles should be kept together or separated. Supporting the case for separate articles, the coordinator of Northern Teachers Centre said that "everything in an issue is not of interest to everybody," and that the loose-leaf sheets were more easily disseminated than a bound format. Loose-leaves made photocopying easier, said the Deputy Head of Multiple Subscription Independent School, but he had reservations about the SET folder cover. He suggested that "the ideal thing would be to keep them in a folder with a clear front. It's better if the front page can be seen." The action of the librarian at Three Separate Subscriptions Primary School in taping a hand-printed titles list onto the outside of the cover of SET effectively supported this opinion.

The loose-leaf format had no particular advantages, from the point of view of the Periodicals Libarian at Small Tertiary College,

> "We use it as we would a bound journal. It goes out as a set... I could see that, if it was subscribed to by a Division, then maybe there would be a good reason for one person having that section and another another."

The short and concise nature of the articles attracted favourable comment from many people, and some of these comments have been referred to already in other contexts. The teacher/audio-visual coordinator at Eastern High School expressed the view that buyer-resistance increases in proportion to the length of the material, that the loose-leaf format suited the dissemination procedure used in the school, and that the materials provided "excellent value in terms of the amount that it costs us, given the breadth of its potential application."

The brevity of articles was also favourably referred to by the Curriculum and Materials Development Officer at Small Tertiary College. He added that, personally, he found the New Zealand articles interesting in that "someone in another country faces the same problems that I do." He

explained that, in in-service work with which he is involved, he prefers to use interstate examples of situations because he believes that local examples present a threat or too great a challenge which deters teachers from attempting to emulate them.

The Student Counsellor at Single Subscription Independent School had been pleased about the absence of "high-powered jargon," but the lecturer in Education at Large Tertiary College had reservations about the "level of language":

> "It's much more suited to people working here and to student teachers than to teachers in some ways. I've asked myself a couple of times, 'If I were a teacher, how would I use that?' and the answer has been 'I'm blowed if I know.'"

However, the presentation of SET was 'first-class', he said, and the loose-leaf style presented better accessibility and was more compact than any form of binding. Although he uses "The Educational Magazine" and other journals in a similar way to SET, by "skimming and using bits of them," they don't have the same advantage:

> "If there's something in one that you want to give to a student then you effectively have to photocopy it or give the student the whole journal. With SET you can take out the relevant piece."

There was general agreement that the range of topics in SET was broad, but there was disagreement about the school-level to which they might be most relevant. The Deputy Principal at Three Separate Subscriptions Primary School was of the opinion that out of ten articles, perhaps only three were of interest to the primary school. The Deputy Head at Multiple Subscription Independent School reported a feeling amongst the staff that a majority of the articles were "geared for the primary area," and not directly relevant to the Years 9 to 12 level for which the school caters.

Between these points of view lay that of the Education Lecturer at Large Tertiary College, who felt that upper primary and lower secondary levels were "least well-served" in the first two issues. He believed that the article on primary-secondary transition was "not the sort of issue that teachers would be confronted by. It would be picked up more by an administrator."

In most instances the long-term storage of SET after current use was a problem yet to be solved. The Principal of Parish Community School intended that SET would be stored temporarily in the Staff Room with other current materials, to be filed subsequently article by article, in an existing system which utilised topic headings such as 'Maths", "Language", and "Testing."

The Three Separate Subscriptions Primary School Librarian saw SET as "a borrowing thing, not expendable but ephemeral," but had not catalogued it. She was not sure if it would be best to shelve it as a single item in the library or to file the sheets separately under subject headings. The Deputy Principal whose copy went to her home address was considering placing the complete set of articles in a ring-binder to combine durability with easy access. "Perhaps ACER could consider making a binder available for permanent storage of copies," she suggested.

Concluding Comment

At this stage, it seems appropriate to make some tentative generalisations about the impact of SET in schools and other educational institutions. The generalisations are tentative because of the relatively small number of cases involved and because the time over which the cases were followed was short (less than three months). Firmer statements will require a larger and more representative sample and study of these cases over longer periods.

The cases we have studied so far show that most decisions to adopt SET were made independently by the subscription-addressee, and usually after learning about SET from a mailed brochure. Decisions to adopt were made on the basis that it was good to keep up-to-date with research findings, and that this knowledge would facilitate discussion of educational issues. The brevity of the articles, the reasonable cost, and the attractive presentation were the characteristics of the package which encouraged adoption.

It became clear quite early in these exploratory studies that neither the nominal position held by the adopter or the number of copies of SET ordered bore any relation to the subsequent diffusion and use in the various contexts. What actually took place depended on an individual in the particular situation.

Dissemination procedures ranged from a passive to an active style. Sometimes, therefore, SET was made available without comment for people to examine, or in a slightly more active style notices on a board or in a staff bulletin were used to draw attention to its availability. In the most active style individual's interests were known and specific articles were "poked under their noses." Hindering some dissemination procedures were barriers, some recognized (building extensions, or lack of time to familiarise with SET contents due to other academic work taking precedence), and some initially unrecognised (difficulty in cataloguing, or hold-up in circulation).

Critical factors which appeared to affect internal dissemination were:

1 Commitment: The presence of a disseminator in the institution and his approach to the task
2 Knowledge/awareness: The disseminators familiarity with the educational interests and attitudes of the staff
3 Timing/opportunity: The ability of the disseminator to provide staff members with relevant information at an appropriate time.

Information collected from adopters reinforced a view recently put forward that some form of gatekeeping role on the flow of research knowledge is necessary (Knott and Wildavsky, 1980). We have also detected an extension of this in our study of internal dissemination. The 'active' use of SET seemed to take place when the disseminator distributed the articles selectively to members of staff whose interests were known to him. The need for an internal disseminator is apparently strongly-felt and it is clear that serious consideration needs to be given to the formalising of dissemination roles in educational institutions, if knowledge-usage is to be maximised.

The emergence of a disseminator, often self styled, seems to be a similar development to that found by Patton (1978) in his American study of the impact of evaluations. He reported the influence of a 'significant individual' who became personally responsible for ensuring that the results of commissioned evaluations were used in the organisations affected. In this study the significant individual is taking the SET package and other research knowledge and using this to influence the thinking and practice of his colleagues.

Generally, SET is favourably regarded as a means of keeping abreast with research developments. However, it is clear that its potential has not yet been fully realised. Specifically, further research seems warranted, with dual benefits of more detailed clarification of significant factors in the diffusion process, and development of awareness of SET and of dissemination procedures which may be used with it. The framework for analysis suggested by Willett (1975), reviewed in Section One, and utilising a type of sociogram (Research Impact Gram) to graph the findings of longitudinal case studies, appears to be very suitable for use in the next stage of the study. It incorporates the dimensions of dissemination time, the audience-level, and the type of action (if any) which results from use of the disseminated knowledge. These dimensions span the various factors and issues which our exploratory studies have illuminated.

It is important that the next stage of the research takes into account the impact or effectiveness of the use of the diffused knowledge, for this is the end to which the various adoption and diffusion factors studied so far are the means.

ADDENDUM

An interesting aspect of some of the situations studied has been a reactive effect whereby dissemination procedures have been varied as a result of the attention of this research. When the school counsellor at the Single Subscription Independent School returned the verified notes of our discussions, she added a comment saying that "the visit by the SET research team prompted me to make another attempt to circulate the material." She went on to describe three opportunities which she had taken to bring SET to the notice of staff; on one occasion with a group and on the other occasions with individuals. The counsellor felt, however, that these dissemination attempts were not very successful, hence her previously-quoted comment of "I haven't yet solved the problem of the best way to do it."

Appended to the case study notes returned from South Eastern High School was a comment indicating that the article "What Secondary School for my Child" had been copied and circulated to members of the School Council as well as to staff. The librarian noted that there had been "no feedback as yet, other than that parents were happy to be included in distribution." The SET case study at Large High School accelerated the discovery that the copy of SET had got lost in circulation, and prompted the Periodicals Librarian to rethink the dissemination procedure, as described previously. She reported later that SET had been found.

The Deputy Principal who privately subscribed wrote to say that, at a seminar for Deputy Principals which she attended after our visit,

> "... there were some strong views expressed on the practice of having parents as teacher-aides, particularly in the hearing of reading. I mentioned the article on home tutoring and several people wanted to know more about the publication."

These responses suggest that even a small degree of stimulation may bring about some degree of development or change in dissemination procedures.

SECTION FOUR: TEACHERS' OPINIONS ABOUT SET

To complement the case studies, information about SET was collected in a series of structured sessions in which teachers examined the SET package. There were several aims underlying the collection and analysis of these data. The first was to assist us in the preparation of a framework linking possible uses of research information to the users' opinions of the research. The second was to provide information designed to assist the SET editors and others concerned with the ongoing development of the SET materials. Thirdly, we took the view that the sessions in which the data were collected were opportunities to tell teachers about SET, and to use these sessions as an example of educational evaluation. Thus, in addition to providing the basis for further research, and providing formative feedback, the techniques used had an inbuilt educative function for the respondents.

Data Collection

The data were collected in sessions of about one hour, during which practising teachers examined SET and subsequently completed a questionnaire. In all, 122 responses were collected from six sessions. The respondents included primary and secondary teachers.

The questionnaire was designed to help us develop items which would measure different modes of use of new knowledge,and teachers' views of the characteristics of new knowledge. Teachers were thus encouraged to put forward ways in which they could use the information contained in the SET articles. To assist in developing ways of tapping teachers opinions about the characteristics of new knowledge, items based on those developed by Weiss and Bucuavalas (1980) were written. These items were each linked to one of five constructs to be explained later in the text.

In addition to soliciting the views of teachers about information contained in the SET articles, part of the questionnaire was devoted to gathering data about the form of the SET articles and the form of the

Table 4.1 Teachers' Opinions About the SET Package

Item: How would you describe the SET package in terms of:

(a) format		(b) range of topics	
very good (5)	39	very broad (5)	41
(4)	39	(4)	42
(3)	13	(3)	12
(2)	4	(2)	4
very poor (1)	5	very narrow (1)	1
	100		100
M	4.03		4.18
SD	1.06		0.97

Note: Figures in the body of the table are percentages.

M, mean. SD, standard deviation.

SET package. These data were designed to be fed back to the developers as part of the formative evaluation. The layout of the questionnaire and the wording used were subjected to an intensive panelling procedure by a group of educational researchers. The final form of the instrument used is included as Appendix C.

The findings are now presented in four subsections; opinions about the form of the SET package, opinions about the presentation of the SET articles, critical reactions to the content of the SET articles, and uses of the SET materials.

Opinions About the SET Package

A five point Likert type scale was used to gather teacher opinions about the format of the SET package and the range of articles included. By format, we meant aspects such as the printsize, colour and layout of the articles and the form of the package.

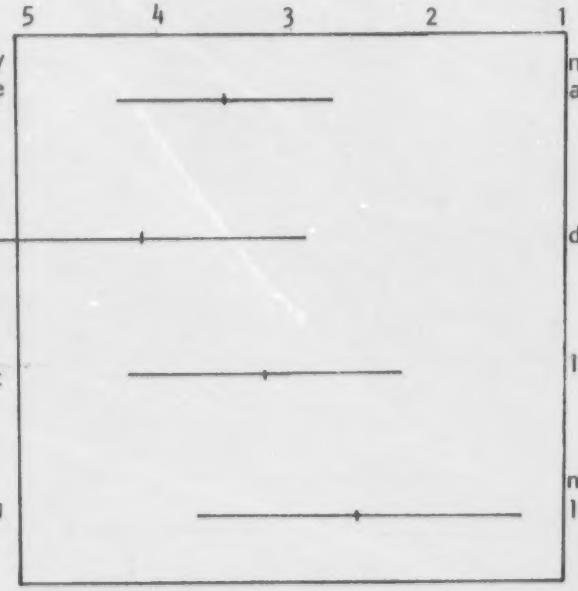
The results are shown in Table 4.1, and they indicate that about 80 percent of respondents perceived the SET package to have a good or very good format, and over 80 percent perceived the package to contain a broad or very broad range of articles.

The free responses generally reinforced the overwhelmingly positive views about the form of the SET package. Most comments referred to the format. Teachers stated that there were two major advantages of the detached articles within a folder; ease of within school distribution amongst the staff, and ease of photocopying articles of relevance. There were also several comments about the 'professional feel' of the package even though the format was different from a conventional journal. Several respondents referred to the possibility of loss of articles while being distributed in a school, but the majority were of the opinion that the loose-leaf style assisted in the dissemination of articles to those who were receptive to research findings.

The second cluster of comments were about ways in which publicity about the contents of SET could be improved. Several respondents suggested that a large 'contents sheet' should be included in the package, others wanted a table of contents on the cover folder. Some reported that the

Table 4.2 Opinions About the Characteristics of SET Articles

	REACTIONS TO EACH CHARACTERISTIC		EFFECT ON READING PATTERN		
			encouraged me to continue	made no difference	discouraged me from continuing
(a) layout[a]	very attractive	not attractive	37[b]	60	3
(b) level of comprehension	easy	difficult	53	42	5
(c) amount of technical information	great	little	40	52	8
(d) length of article	long	not long	40	48	12



Note: (a) Means and standard deviations marked for each characteristic on a five point scale.

(b) Figures quoted for effects on reading patterns are percentages.

existing contents sheet was drab, and thus not eye-catching. One or two teachers wanted the number of each item printed more clearly to aid identification. One teacher requested that a 'suggestion sheet' be included in each SET package so that teachers could write to the editors asking for articles on relevant topics.

Compared with the volume of comments about format there were fewer free response comments about the range of topics. Most teachers who did respond supported the notion of a broad range of articles although several expressed the view that the scope of the articles made many of them irrelevant to their particular teaching situation.

Presentation of the SET Articles

In addition to the form of the SET package, we considered that the form of the articles might be an important factor in determining the extent to which teachers were encouraged to consult material in SET. To determine which characteristics of the articles might be significant, one of the SET editors was consulted and, in addition, some informal reactions were sought from people who had examined the articles.

It was decided to concentrate our examination on four aspects; layout, level of comprehension of the content, amount of technical information, and length of article. Other aspects which teachers thought to be important were gathered in an open response question.

The opinions of teachers on the form aspects listed above, and their effect on reading of the articles are outlined in Table 4.2.

Opinions of each characteristic were recorded on a five point Likert scale, and the means and standard deviations for each characteristic are shown in the left hand side of the Table.[8] It is apparent that the reactions to the general layout, the amount of material on each

[8] Many of the distributions reported here are skewed in such a way that the medians are greater than the means.

page of the article, printsize, etc. was generally favourable. Teachers also thought that the articles were easy to comprehend. There was more ambivalence about the other two facets. Clearly the articles achieved a balance in terms of amount of technical information included and length of article. Overall, the general reaction to the characteristics of the SET articles was extremely favourable.

An examination of the effects on reading patterns also shows a generally favourable trend for the SET developers. Very few respondents were discouraged from continuing to read. At least one teacher in three reported that a given characteristic of the SET article encouraged further reading. In all cases there was a large proportion who were not influenced by the characteristic in question. This may have been expected from a population which had completed tertiary education in that they would be influenced more by the contents of the article than by the format.

Critical Reactions to the Contents of SET

In the sessions teachers were given sufficient time to read one article from the SET package as the basis for making comments about the contents. In the first four of these sessions, an article was allocated to each member of the group. However, in the final two sessions, respondents were given freedom to select an article. An analysis of these choices gives an indication of the most popular topics. The numbers involved (N=41) makes it impossible to make general statements about teacher preferences. However, it is of interest to find that all except one article was chosen, and that the most popular dealt with the following topics; class size, assessment, transition from school to work, and emotional security of young children.

All respondents completed statements about the characteristics of the SET articles. These statements were designed to measure five constructs; relevance, research quality, action orientation, conformity to users' expectations, and challenge to the status quo. These constructs were

suggested by Weiss and Bucuavalas (1980) as important dimensions which decision makers invoked to assess the worth of research articles.

Relevance. In Table 4.3, responses to items designed to tap the construct Relevance are outlined.[7] These responses suggest that most of the articles dealt with important issues in schools. However, there was ambivalence over the relevance of the articles for personal decision making; only one third of the teachers agreed or agreed strongly that the research work reported came at an opportune time to assist them in making educational decisions. This aspect, the timing of information input, needs to be investigated further. In this instance, it may have been that the time of the year, late Term III, was a period when few decisions about their school program were made by respondents. Or perhaps the pattern of responses is related to teachers' concepts of decision making, that it relates directly to classroom action only. A third possibility, discussed again later, is that SET articles contain information more likely to enlighten readers or to reinforce what has already been done rather than to influence decisions for changing policy or programs.

Research Quality. Five items, designed to tap respondents' opinions of the research quality underlying SET articles, are shown in Table 4.4.

The results indicate that the majority of respondents viewed the SET article as satisfactory in terms of its logical consistency and that the SET article made a further contribution to knowledge about a paticular aspect of education. There is considerably less agreement about the technical quality of the research, as represented in the article. Associated with respondents' opinions of technical quality, there is also a group who reported on the lack of quantitative data

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[7] In general, we have interpreted any response in columns (5) and (4) on the questionnaire as being one indicating high agreement with the proposition being considered.

Table 4.3 Relevance of SET Articles

		great extent (5)	(4)	(3)	(2)	not at all (1)	M	SD
(i)	To what extent is the general topic of this article relevant to your current work in schools	37[b]	34	7	9	13	3.73	1.38
The contents of the SET article								
(ii)	deals with a high priority issue	35	32	20	9	3	3.86	1.10
(iii)	comes at the right time for a pending decision	20	14	11	16	39	2.60	1.59

Note: (b) Figures in the main body of the Table are percentages, read across the page.
M, mean. SD, standard deviation.

Table 4.4 Research Quality: SET Articles

The contents of the SET articles	great extent (5)	(4)	(3)	(2)	not at all (1)	M	SD
(i) has recommendations which are supported by the data	18[c]	36	17	18	11	3.33	1.26
(ii) adds to theoretical knowledge in the field	11	42	23	16	8	3.27	1.16
(iii) is comprehensive; it includes most of the potential factors which explain the outcomes	13	31	23	20	12	3.12	1.24
(iv) provides quantitative data	10	29	22	21	19	2.29	1.29
(v) contains research of high technical quality	8	23	27	25	17	2.80	1.22

Note: (c) Figures in the main body of the Table are percentages, read across the page. M, mean. SD, standard deviation.

Table 4.5 Action Orientation: SET Articles

The contents of the SET article		great extent (5)	(4)	(3)	(2)	not at all (1)	M	SD
(i)	has findings which can be applied within existing schools and programs	39[d]	37	12	10	2	4.01	1.04
(ii)	discusses factors that teachers can do something about	42	36	7	11	5	3.98	1.02
(iii)	has direct implications for a course of action	36	31	12	16	5	3.77	1.24
(iv)	is specific: it focusses on a narrow range of outcomes	23	39	17	8	13	3.53	1.28
(v)	contains explicit recommendations	27	30	18	11	14	3.44	1.37
(vi)	is generalisable to other equivalent groups besides those discussed in the study	22	34	19	15	10	3.43	1.26

Note: (d) Figures in the main body of the Table are percentages, read across the page. M, mean. SD, standard deviation.

Table 4.6 Conformity to User Expectations

	great extent (5)	(4)	(3)	(2)	not at all (1)	M	SD
(i) To what extent do the findings agree with what you expect?	42[e]	38	19	1	-	4.20	0.79
The contents of the SET article							
(ii) (are) compatible with my educational ideas and values.	39	35	15	10	1	4.02	1.02
(iii) supports a position I already hold	34	28	23	12	2	3.79	1.12
(iv) is consistent with a body of previous knowledge	27	33	30	7	3	3.76	1.02

Note: (e) Figures in the main body of the Table are percentages.
M, mean. SD, standard deviation.

Table 4.7 Challenge to the Status Quo

The contents of the SET article	great extent (5)	(4)	(3)	(2)	not at all (1)	M	SD
(i) has implications which are politically acceptable to existing education authorities	23[f]	34	15	13	15	3.37	1.38
(ii) challenges existing assumptions about educational arrangements	10	28	24	17	22	2.89	1.32
(iii) implies the need for a major change in the philosophy of school organisation	11	18	30	21	20	2.80	1.24
(iv) raises new issues in education	7	17	13	20	43	2.26	1.35

Note: (f) Figures in the main body of the Table are percentages.
M, mean. SD, standard deviation.

and these two results appear to go together. The relative lack of technical information may have been a deliberate policy of the SET developers in an attempt to make the articles more attractive to the majority of the potential audience. However, there was a sizeable proportion of teachers who in the free response section were critical of the lack of inclusion of basic data from which discussion about the issue was formulated. Other respondents realised that further information about the issue could be obtained from the references included in each pamphlet, and some commented favourably about the SET article as an introduction to other more academic publications related to the issue.

Action Orientation. Six items were designed to tap the respondents' opinions of the action orientation of the SET articles, and these are included in Table 4.5, along with the distribution of responses. The mean scores for all items are above 3.40, and this, along with the skewed distribution, shows that there was general agreement that the articles incorporated information which teachers and schools could use. Almost 80 percent were of the opinion that the contents of the article were potentially very useful to teachers, and almost the same percentage indicated potential use of the information to schools. The vast majority of respondents viewed the article as containing information in a form that was explicit, had guidelines for decision making and was thus the basis for action. There was also agreement by a majority that the results obtained were transferable, that is that they could be applied to groups other than those mentioned in the study. This item, however met with lower agreement than the others under this general heading, as the distribution of responses show.

Conformity to User Expectations. Four items were developed to elicit opinions of teachers regarding the novelty of the results of the research in SET. Each item was designed to measure an attribute of a SET article related to the congruence of the findings to the value position held by the respondents.

From the results outlined in Table 4.6 it is clear that the findings presented in the SET articles were not surprising to the majority of

the respondents, and were generally expected in the light of what was previously known about the topic. Furthermore, it is evident that for the majority of teachers, the contents of the SET articles were consistent with the values of the readers.

One can deduce from these results that the research findings represented by the SET articles were serving to confirm teachers' opinions about educational practice which had been derived from their experience in schools. Thus, it may be that one of the most important benefits of SET for teachers is the legitimative benefit, that is, SET may provide independent evidence for schools already engaged in policies and programs already in train. This should be further investigated further.

Challenge to the Status Quo. This construct was represented by four items, one of which was worded in such a way that it put the negative case for challenge to change. This item is number (i) in Table 4.7.

When this is taken into account, it can be concluded that the general consensus of respondents was that the contents of SET were hardly controversial in the sense of providing information as a springboard for educational reform. For example, almost two thirds of teachers responded that the SET articles raised few or no new issues in education, and 55 percent agreed strongly or very strongly that the contents of the SET article read contained implications which were politically acceptable to existing education authorities.

An interesting factor in the statistics for this scale was the relatively high standard deviations for items on this scale. This indicates either that the views of teachers on a given article diverged widely, or that there were variations in the conservatism of material contained in different articles. An examination of responses for different items revealed that the latter was the case. Some items such as the class size issue were clearly more likely to challenge the status quo than others in the SET package.

Uses of SET

Finally, we report the patterns of projected use which teachers have for the results of the research outlined in the SET package. To explore the methods of use suggested by Pelz (1978), several pilot items were included in the trial form of the questionnaire. Only these are outlined here. Further work is underway to analyse the free responses also gathered through the questionnaire.

Six items were included in the questionnaire which suggested methods of use of the information outlined in the SET articles. The distribution of responses for these items is included in Table 4.8.

Items (i), (ii), and (v) have a definite knowledge-for-action flavour, and could be defined as instrumental modes of knowledge use. Of these, item (v) has the highest mean. The prior data suggest that the results included in SET are more likely to be a modifying rather than a revolutionary influence, and this is borne out in the projected uses for action.

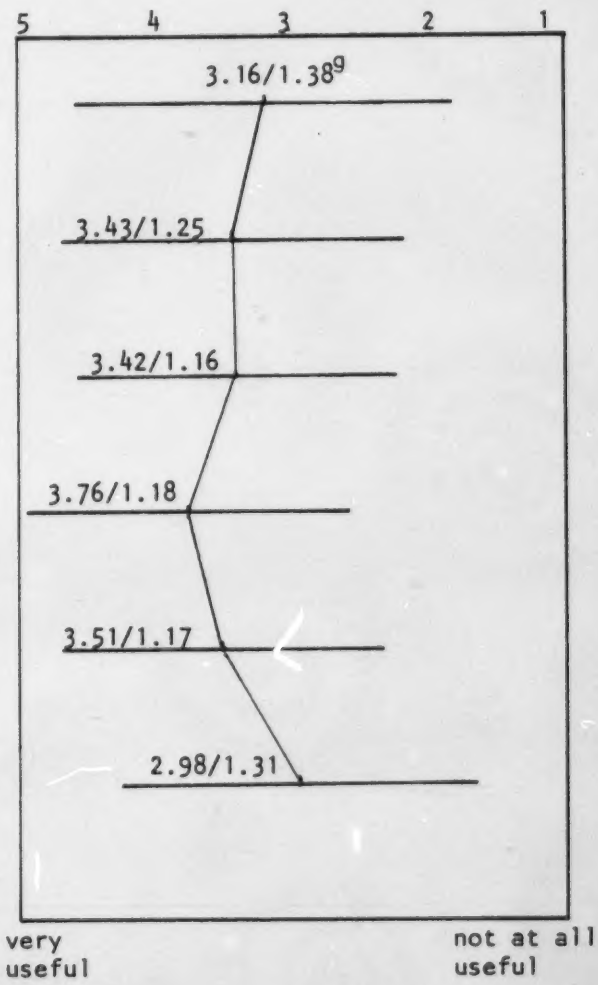
Item (v) has a knowledge-for-understanding perspective and could be classed as an item measuring conceptual utilization. Slightly more than one quarter of the respondents viewed the SET article they read as being very useful in this respect.

Item (iv) has a knowledge-for-support perspective and could be classed as an item measuring legitimative utilization. This item has the highest median; a result which suggests that teachers will find the results of research useful to reinforce action already taken in educational institutions based on intuitive ideas of practical needs.

Item (iii) does not appear to fall readily into either of the three categories already discussed. It could be regarded as knowledge preceding action, and thus the legitimative function is ruled out. Applied to an individual, it could be regarded as enlightening knowledge, and thus be conceptual. Or it may be seen as an essential part of action in the school, and be classed as instrumental.

Table 4.8 Uses of Information Contained in SET

Item. Results of Educational research could be used for a variety of purposes. If you were to use the contents of the SET article, how useful would they be for:



Note: (g) means and standard deviations.

More work needs to be carried out, using the responses gathered, to assist in defining more clearly the meanings of these concepts as they apply to educational settings.

EPILOGUE

This introductory report consists of four major sections. The first was developed from a review of existing literature devoted to the study of change. It provided us with guidelines for the study of the impact of SET, including the division of the study into the separate facets; adoption, diffusion and dissemination, and user reactions. Each facet formed the basis of one of the other major sections.

SET has obviously impressed the educational community as a resource for teachers and others. Over 3400 subscriptions were taken out by schools and individuals across Australia by July 1980. This suggested that SET had great potential to influence the thoughts and actions of educators. Our studies of its diffusion in schools shows, however, that its full impact has not yet been realised. Most of the schools studied do not possess established mechanisms by which information of this type can readily be accessible to those for whom it may have value.

When teachers do get the chance to evaluate SET, their reactions are very favourable. The format is perceived to be suitable, the range of articles acceptable, and the content and form make for easy comprehension.

One message which comes from this study suggests that schools are not accustomed to processing information which may have potential benefit for the teachers and their students. There are few schools which acknowledge the need for an influential member of staff to look out for relevant educational material and there are few schools which have worked out effective dissemination strategies. Until attention is given to these problems, it is likely that much educational knowledge of relevance to teachers will not be utilized.

REFERENCES

Ben-Peretz, M. The Concept of Curriculum Potential, Curriculum Theory Network, 1975, 5, 151-159.

Berman, P. and McLaughlin, M.W. Implementation of Educational Innovation, The Educational Forum, 1976, 40, 345-370.

Caplan, N. and Nelson, S.D. On Being Useful: the Nature and Consequences of Psychological Research on Social Problems, American Psychologist, 1973, 28, 199-211.

Caplan, N. et al. The Use of Social Science Knowledge in Policy Decisions at the National Level. Ann Arbor: Institute for Social Research, University of Michigan, 1975.

Clark, D.L. and Guba, E.G. On Examination of Potential Change Roles in Education. Paper presented at the Symposium on Innovation in Planning School Curricula. Airlie House, Virginia, USA, 1965.

Cooley, W.W. and McGrail, J. Need for Research in Education. Paper presented at the annual meeting of the American Educational Research Association, New York, N.Y., 1977.

Council of Europe. EUDISED: Technical Studies. Strasbourg: Documentation Centre for Education in Europe, 1971.

Dunn, W.N. The Two Communities Metaphor and Models of Knowledge Use. Knowledge: Creation, Diffusion, Utilization, 1980, 515-536.

Emrick, J.A. and Agarwala-Rogers, R. National Diffusion Network: An Emerging Strategy for Directed Change. Viewpoints in Teaching and Learning, 1978, 54, 90-113.

Evans, W. and Behrman, E.H. Strategies for Evaluating Curriculum Implementation. Journal of Curriculum Studies, 1977, 9, 75-80.

Foyster, J. Report of a National Evaluation of the Special Projects (Innovations) Program. Canberra: Schools Commission, 1979.

Fullan, M. Overview of the Innovative Process and the User. Interchange, 1972, 3, 1-46.

Fullan, M. An R&D Prospectus for Educational Reform. Private Communication, 1979.

Fullan, M. The Relationship between Evaluation and Implementation in Curriculum. Forthcoming chapter in Lewy, A. (Ed.) Evaluation Roles. Private Communication, May 1980.

Fullan, M. and Pomfret, A. Research on Curriculum and Instruction Implementation. Review of Educational Research, 1977, 47, 335-397.

Gideonse, H. The Locus of Control and Decision Making in Educational Research Management: an External Viewpoint. In Temkin, S. and Brown, M.V. (Eds.). What Do Research Findings Say About Getting Innovations into Schools? Report of a Symposium, October 8-9, 1973. M/F ED 103 987.

Glass, G.V. et al. Teacher Indirectness and Pupil Achievement: An Integration of Findings. Boulder Colorado: University of Colorado, Laboratory of Educational Research, 1977.

Hall, G.E. et al. Levels of Use of the Innovation: A Framework for Analysing Innovation Adoption. Journal of Teacher Education, 1975, 26, 5-9.

Hall, G.E. and Loucks, S.F. A Developmental Model for Determining Whether the Treatment is Actually Implemented. American Educational Research Journal, 1977, 14, 263-276.

Havelock, R.G. (Ed.) Planning for Innovation through Dissemination and Utilization of Knowledge. Ann Arbor, Michigan: Centre for Research and Utilization of Scientific Knowledge, 1973a.

Havelock, R.G. Educational Innovation in the United States. Vol. 1, The National Survey: The Substance and the Process. Ann Arbor, Michigan, USA: Crusk, 1973b, Microfiche ED 091 865.

Havelock, R.G. et al. ERIC Evaluation: 1969 to 1977. Internal Memorandum to the Dissemination and Resources Group. Washington, D.C.: National Institute of Education. Quoted by Raizen (1979).

Knott, J. and Wildavsky, A. If Dissemination is the Solution, What is the Problem? Knowledge: Creation, Diffusion, Utilization. 1980, 537-578.

Larsen, J.K. Knowledge Utilization: What Is It? Knowledge: Creation, Diffusion, Utilization. 1980, 1, 421-442.

Leithwood, K.A. Choosing Dimensions for Describing the School Curriculum: a Basic Task for Management of Curriculum Implementation. Unpublished Paper. Toronto, Canada: Ontario Institute for Studies in Education, 1978. Quoted in Fullan, 1979.

Machlup, F. Uses, Values and Benefits of Knowledge. Knowledge: Creation, Diffusion, Utilization. 1975, 1, 62-81.

Miles, M.B. A Matter of Linkage: How Can Innovation Research and Innovation Practice Influence Each Other? In Tamkin, S. and Brown, M.V. (Eds.) What Do Research Findings Say About Getting Innovations into Schools? Report of a Symposium October 8-9, 1973. M/F ED 103 987.

National Centre for Education Statistics. The Conditions of Education, Volume 3, Part 1: A Statistical Report. Washington, D.C.: United States Government Printing Office, 1977. Quoted in Raizen (1979).

Nelson, S.D. Knowledge Creation: An Overview. Knowledge: Creation, Diffusion, Utilization. 1979, 1, 123-149.

Owen, J.M. The Impact of the Australian Science Education Project on Schools. Canberra: Curriculum Development Centre, 1978.

Owen, J.M. The Australian Science Education Project - A Study of Factors Affecting its Adopting and Implementation in Schools. Unpublished Doctoral Thesis, Monash University, 1979.

Patton, M.Q. Utilization Focussed Evaluation. Beverley Hills, Ca: Sage, 1978.

Pelz, D.C. Some Expanded Perspectives on Use of Social Science in Public Policy. In Yinger, J.M. and Guther, S.J. (Eds.). Major Social Issues: a Multidisciplinary View. New York: Free Press, 1978. 346-357.

Raizen, S. Dissemination Programs at the National Institute of Education: 1974 to 1979. Knowledge: Creation, Diffusion and Utilization, 1979, 1, 259-292.

Rich, R.F. Uses of Social Science Information by Federal Bureaucrats: Knowledge for Action Versus Knowledge for Understanding. In Weiss, C (Ed.) Uses of Social Research in Public Policy. Lanington, MA: D.C. Heath, 1977.

Rogers, E. and Shoemaker, F.F. Communication of Innovations (2nd Edition). New York and London: Free Press and Collier, MacMillan Ltd., 1971.

Rosenau, F. et al. Utilization of NIE Output. Berkeley, California: Far West Laboratory for Educational Research and Development, 1971. M/F ED 088 140.

Schools Commission. Australian Students and Their Schools. Canberra: Government Printer, 1979.

Sieber, S.D. The Integration of Fieldwork and Survey Methods. American Journal of Sociology, 1973, 78, 1335-1359.

Weiss, C.H. and Bucuavalas, M.J. Truth Tests and Utility Tests: Decision Makers' Frames of Reference for Social Science Research. American Sociological Review, 45, 2, 1980.

Willett, L.H. Assessing Impact of Institutional Studies. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, D.C., U.S.A., 1975. M/F ED 107 202.

APPENDIX A: DESCRIPTIVE LIST OF CASE STUDY SITUATIONS

Northern Teachers' Centre - a single subscription, addressed to the Centre, rather than to the Coordinator by name or office.

Small Primary School - a single subscription addressed to the school rather than to any individual; a co-educational state school of about 300 pupils.

South-Eastern High School - a single subscription, addressed to "The Librarian"; a co-educational state school.

Parish Community School - a single subscription, addressed to "Principal"; a local parish primary school.

Tertiary Institution Lecturer - a single subscription, addressed to the lecturer by name, in his department at a large tertiary college.

Three Separate Subscriptions Primary School - one subscription addressed to the school, one to "Librarian", and one by name to the Deputy Principal; a co-educational school.

Multiple Subscriptions Independent School - one order for 5 subscriptions and another for 4, addressed by name to the Deputy Headmaster; a boys' private secondary school.

Single Subscription Independent School - a single subscription, addressed to "Psychologist"; a boys' private school (all levels).

Large High School - a single subscription, addressed to the school rather than to any individual or office; a co-educational state school of over 1000 pupils.

A private subscription - the Deputy Principal of a co-educational state school, addressed to her by name at her home address.

Eastern High School - two separate subscriptions, one addressed by name to a teacher at the school and the other to "Principal"; a co-educational state school.

Tertiary Institution Lecturer in Education - a single subscription addressed to the lecturer by name, at a large tertiary college.

Small Tertiary College - two separate subscriptions, one addressed to "Periodicals Librarian" and the other by name to a member of staff in the Education Division.

APPENDIX B

CASE STUDY: SOUTH EASTERN HIGH SCHOOL

A structured form of dissemination was found to be in operation at a suburban high school, based on a Curriculum Committee and a Librarian with many years of experience (12 years in this particular school, in fact).

The decision to subscribe to SET arose in 1979 as a result of a pamphlet advertising the Special Issue. The pamphlet was circulated by the librarian around the Curriculum Committee, the members of which were described by the librarian as "the initiators of educational innovation in the school." Through those members, the pamphlet was also seen by other members of the staff. When the Special Issue arrived, it became part of the Professional Library and was circulated around a group of "about 12 people," who would have shown it to others in the staff room - "ours is a one staff room situation." People who were keen to see the next issue had their names added to the original circulation list, and this list was extended further by the librarian after the next issue (Number One, 1980) was received, when she had seen the contents. As she put it with some pride, "I know my clientele. I've been here a long time!"

Although the response to the Special Issue was strong, the librarian will take out subscription "even if we have only one customer... At least one person is educated." This policy had been discussed and approved by the Curriculum Committee.

As a result of staff changes and reorganization of the Curriculum Committee, that part of the original circulation list no longer exists. The Curriculum Committee now has a membership which varies with the topics under discussion, although a basic core of members (with a Senior Teacher new to the school this year as Convenor) continues.

In an attempt to reach all staff, the librarian listed the article-headings contained in SET Number 1, 1980 in one of the school's daily

staff bulletins. As a result, a couple of staff members' names were added to the circulation list. For the next issue, the full contents sheet which comes with SET and which contains an abstract of each article, may be run in the Staff Bulletin each day for a week.

Each issue of SET is kept intact. The librarian explained, "I thought of breaking it up but I feel that sometimes someone asks to see something like, say 'gifted children', and if you just did that, they might miss out on, say 'Specific Learning Disabilities' and that teacher could equally be interested in that... The trouble with all this information is exposing people (to it) at the right time."

The current issue had not been indexed at the time of our visit, but a record card is kept to book it out and in for each person, whether they are in the circulation list or not. The librarian considers that she can "keep tabs on it" better this way. Although the Deputy Principal had the copy for about a week, 2 days was more typical for the other borrowers listed on the card. The librarian's perception of the use to which staff put the information contained in SET is that they would "mentally store it away" rather than make notes or photocopies, but felt that she was not in the staff room enought to know whether it prompted discussion amongst staff.

For another point of view we talked with the coordinator of the Mathematics and Science subjects. In this position, he is usually circulated with materials which come to the school. He had not been aware of SET before the librarian circulated it to him, but felt that it contained "worthwhile topics and issues," such as that on class size, for "this sort of topic is useful to discuss with the administration." At his stage he hasn't specifically applied anything arising from SET in his teaching, or circulated it further amongst the other Maths/ Science staff although he usually circulates material, particularly from subject associations. If a topic particularly relating to Maths/ Science were published, he felt that to bring it up before a Faculty meeting would be a useful way of bringing it to the attention of other staff. Circulation of the SET contents sheet, as is done with

"Scientific American," he thought to be useful also.

On a broader aspect, he suggested that more teachers should be made more aware of SET. "Advertising could be a bit more forceful or open" perhaps with "a big poster" to put on the staff room noticeboard, he felt. In his view bringing SET to the notice of the School Council, too, could be useful and parents may be interested as well. As the librarian is on the School Council, he saw her as the logical person to introduce it there. The librarian later commented on this suggestion by saying that it could be circulated to the Council in the same way as the Regional Bulletin, or referred to in the School Newsletter.

He saw the usefulness of research findings generally as of interest, for his own education, and to keep up with current trends. With regard to the latter, he commented that "SET has live issues." Communication of research information was best done by conferences, he said, but there were "difficulties in getting out of school." Therefore, a printed format was most efficient, he believed, because it can reach more teachers.

The Deputy Principal, the first person on the circulation list, said "SET has finally cracked it for the right formula - restrict the quantity of information." He went on to explain that he was "not prepared to wade through something unless it is specifically recommended to me," and that SET had a "good range" of topics which one can scan or reject, according to interest. The presentation was "appealing", he thought, and use of a loose-leaf format meant that articles could be "spread around."

He has ideas, that to "put a box in the staff room with a single article in it" or to "print paragraph extracts in the daily Staff Bulletin to 'hook' staff and encourage them to request the full article" would be effective ways of disseminating SET more widely amongst the staff. "Staff development is part of my job," he stated. "Staff must be being developed if they are reading it."

Although no particular article has stuck in his mind, SET, he said, is "affecting my point of view, I feel." He is grateful to be kept in touch with current developments in research," and prefers a printed format because "it provides an easily retrievable record."

Like the Maths/Science coordinator, the Deputy Principal felt that SET was not yet widely accepted, and needed "more push," perhaps through advertising.

APPENDIX C

QUESTIONNAIRE USED IN STRUCTURED SESSIONS

EVALUATION OF SET (I)

1A You have been given an article from the SET package which we would like you to read carefully and comment upon. Please write the title of article here.

_____

Please indicate your answer to each of the following questions:

(a) To what extent is the general topic of this article relevant to your current work in schools?

To a great extent | | | | | | Not at all

(b) To what extent do the findings agree with what you would expect?

To a great extent | | | | | | Not at all

(c) To what extent do you think that the findings are based on well conducted educational research?

To a great extent | | | | | | Not at all

(d) Assuming that your school was to consider the issues discussed in the article, how likely is it that you would take the findings into account?

Very likely | | | | | | Not at all likely

Results of educational research could be used for a variety of purposes. If you were to use the contents of the SET article, how useful would they be for:

(e) Formulating new school policy?

Very useful | | | | | | Not at all useful

(f) Formulating new school (curriculum) programs?

Very useful | | | | | | Not at all useful

(g) Evaluating the merit of alternative proposals for action?

Very useful | | | | | | Not at all useful

(h) Mobilising support for a position or point of view?

Very useful | | | | | | Not at all useful

(i) Improving existing school (curriculum) programs?

Very useful | | | | | | Not at all useful

(j) Changing your ways of thinking about the issue?

Very useful						Not at all useful

(k) Other. Please write a short description of other use(s) you would have for this study.

(i) _____

_____

_____

_____

_____

(ii) _____

_____

_____

_____

_____

(iii) _____

_____

_____

_____

_____

18

(a) the general layout of the material. e.g. amount of material on each page, printsize, quality of diagrams, colour, etc.

Very attractive ☐☐☐☐☐ Not at all attractive

(b) Which one of the following statements represents your view of the effect of the general layout?

The layout:

(i) encouraged me to continue reading ☐
(ii) made no difference ☐
(iii) discouraged me from continuing to read ☐

(c) How would you describe the presentation of the content?

Easy to comprehend ☐☐☐☐☐ Difficult to comprehend

(d) Which one of the following statements represents your view of the effects of the presentation of the content?

The presentation:

(i) encouraged me to continue reading ☐
(ii) made no difference ☐
(iii) discouraged me from continuing to read ☐

(e) How would you describe the amount of technical information.

A great deal ☐☐☐☐☐ Very little

(f) Which one of the following statements represents your view of the effects of the amount of technical information?

The amount:

(i) encouraged me to continue reading ☐
(ii) made no difference ☐
(iii) discouraged me from continuing to read ☐

(g) What is your opinion of the length of the article?

Very long ☐☐☐☐☐ Not long at all

(h) Which one of the following statements represents your view of the effects of the length of the article?

(i) encouraged me to continue reading ☐
(ii) made no difference ☐
(iii) discouraged me from continuing to read ☐

(i) If there are other features or characteristics of the article you would like to comment on, please do so in the space below.

2. Now we would like you to describe the SET article by indicating the extent to which each of the following statements applies.

The contents of the SET article:	TO A GREAT EXTENT				NOT AT ALL	N/A
(a) Adds to theoretical knowledge in the field						
(b) Deals with a high priority issue						
(c) Adds to practical knowledge about the operation of school policy or programs						
(d) Is compatible with my educational ideas and values						
(e) Discusses factors that teachers can do something about						
(f) Has direct implications for a course of action						
(g) Contains research of high technical quality						
(h) Implies the need for a major change in the philosophy of school organisation						
(i) Is specific; it focusses on a narrow set of outcomes						
(j) Contains explicit recommendations						
(k) Provides qualitative data						

(l) Supports the position I already hold

(m) Has recommendations which are supported by the data

(n) Has implications which are politically acceptable to existing education authorities

(o) Is consistent with a body of previous knowledge

(p) Has findings which can be applied within existing schools and programs

(q) Is generalizable to other equivalent groups besides those discussed in the study

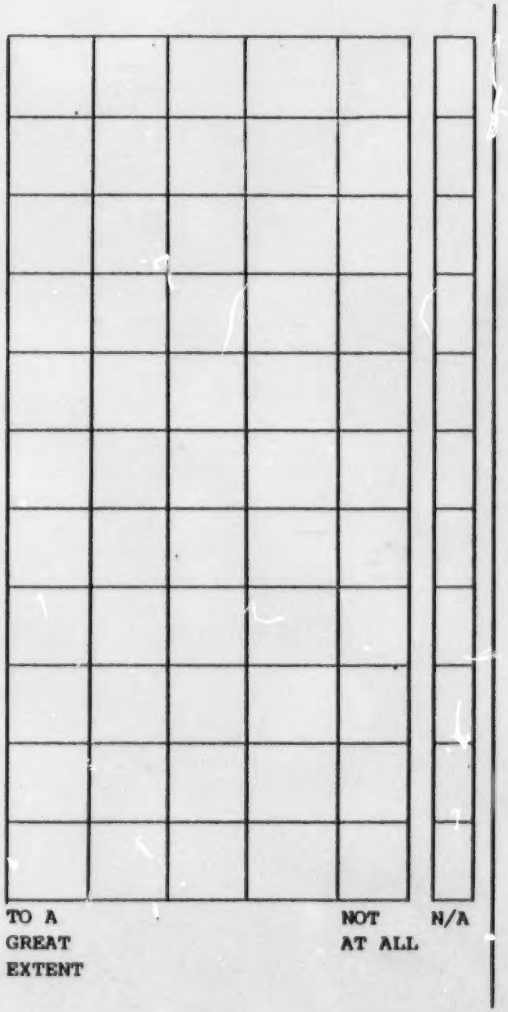
(r) Raises new issues in education

(s) Is comprehensive; it includes most of the potential factors which explains the outcomes

(t) Comes at the right time for a pending decision

(u) Challenges existing assumptions about educational arrangements

(v) Is objective, unbiased



3. Finally, we would like you to consider the SET package as a whole. Assume that you were responsible for evaluating SET for use in your school:

(a) How would you describe the SET package in terms of its format - package plus loose leaf articles?

Very good format						Very poor format

(b) Make a comment, if you wish, to clarify your response.

_____

_____

_____

_____

_____

(c) How would you describe the SET package in terms of the range of topics covered?

Very broad						Very narrow

(d) Make a comment, if you wish, to clarify your response.

_____

_____

_____

_____

_____